The Bristol Medico-Chirurgical Journal.

"Scire est nescire, nisi id me
Scire alius sciret."

DECEMBER, 1907.

SYPHILIS.

The Presidential Address, delivered on October 9th, 1907, at the opening of the Thirty-fourth Session of the Bristol Medico-Chirurgical Society.

BY

HENRY WALDO, M.D.,

Consulting Physician to the Bristol Royal Infirmary.

FIRST of all I wish to renew my cordial thanks to you for electing me as your president. In searching for a suitable subject for an address, it occurred to me that syphilology had made great strides during recent years, chiefly owing to the discovery of the spirochæta pallida. Syphilis is truly called the imitator of very many other diseases. It is also one of the oldest, if not the oldest disease which has afflicted mankind. In Fournier's recent work on syphilis the author regards this disease as such a common cause of miscarriage, that he considers that syphilis is one of the chief factors in the causation of the present depopulation of France. I scarcely know what the staff of a hospital would find to do if syphilis in its different phases were eradicated. It offers many obscure clinical cases for investigation, and when

recognised, it is one of the most satisfactory conditions to treat. One of our members told the City Council that sanitation was rapidly interfering with the gold mine of medicine. I think that if syphilitics were no more the mine might be closed down. The opinion seems to be gaining ground that syphilis is absolutely curable, excepting when it is associated with the abuse of alcohol. It was Moxon, I think, who said that spirit is the best preservative of syphilis. Its curability is borne out by the following facts.

It used to be taught that syphilis could only be acquired once in a lifetime, and that reinfection was impossible; but a number of cases have been recorded by careful observers which seem to establish the possibility of reinfection beyond a doubt. Hutchinson has observed two cases, in one of which the patient passed through two attacks of primary and secondary syphilis, with an interval of five years. In the second case the patient had three attacks, with intervals of fourteen and nine years. Berkeley Hill relates the case of a surgeon who acquired syphilis in the usual way; eleven years later he contracted a digital chancre, followed by secondary syphilis. It is interesting to note that Ricord in his later years recognised the possibility of reinfection. In a letter to W. Acton in 1872, he said: "Now that we have authentic examples of fresh contagions of indurated chancres, with consecutive evolution of the whole series of constitutional symptoms, this proves that patients have been cured, just as the possibility of contracting small-pox afresh, or of vaccination again taking, proves that the first variolous or vaccine influence had ceased." Sir William Gowers has been reputed to have made the statement: "Once a syphilitic, always a syphilitic." But when he was asked to give his reasons for this at a medical meeting, he said: "I have never said such a thing, I have never thought such a thing." He believed every syphilitic ultimately ceases to be a syphilitic, and he continued: "So far from being a sceptic as to therapeutics, I would say this, that you could bring syphilis to an end in the kingdom if you kept under the influence of mercury every unmarried man between 18 and 50 years of age

continuously But," he added, "you would extinguish other things besides syphilis. Promotion in the army would become mysteriously rapid, and the members of the House of Lords would gradually melt away. But," said Sir William, "I am not sure that such a price would be too high to pay for such a boon. That is," he said, "a matter of opinion. We all know Mr. Jonathan Hutchinson's view, namely that he believes that mercury is an antidote to the syphilitic poison if properly administered."

The parasitic germ of syphilis was discovered by Fritz Schaudinn two years ago (1905), and named the spirochæta pallida. It was called pallida on account of the physical properties of the germ possessing a low power of refracting light. Maclennan regards the spirochæte as only one stage in the life history of the micro-organism of syphilis. Unfortunately, a few months after his discovery Schaudinn died, at the early age of 35.

We as a profession are immensely indebted to men like Schaudinn, who devote their lives to work in their clinical laboratories, who as a rule are miserably paid, and who are not recognised in anything like the way they should be. They may console themselves in the words of Emerson, that "a man was born not for prosperity, but to suffer for the benefit of others." I am sure we all agree with the views of Mayo Robson, that there should be a closer union between the work of clinicians and pathologists. We do not make all the use we might of pathological investigation to aid our clinical observations. He thinks the deep debt that preventive medicine owes to bacteriology is likely to be equalled, or even excelled, in the realm of treatment; for not only have bacteriologists shown us how to treat infectious diseases, such as diphtheria, by antitoxic serums, but we have had demonstrated to us recently how the tissues can be rendered immune to various infective agents by inoculation, under suitable conditions that can be determined by the method of blood examination devised by Sir A. E. Wright. Robson says the chemistry of the body is as yet in its infancy, but it has a great future before it. He advocates that investiga-

tions of a private nature, not involving public health questions, should be conducted at the expense of the individual requiring them; and in those of a more difficult and complicated character, especially when the clinical diagnosis depends on the result of the pathological findings, it seems to him desirable that the pathologist should be met in consultation. While it seemed most desirable that poor patients should not be deprived of the help afforded by pathology, yet it seemed anything but desirable that wealthy or well-to-do patients should be paying adequate fees to their medical or surgical advisers and a mere pittance to the pathologist, on whose findings may hang very vital issues.

Well, gentlemen, we are all looking forward in the hope that this important discovery of the spirochæta pallida will assist us in treating patients who may be supposed to be syphilitic. It has long been debated whether it is wise to administer mercury to a person with a primary sore, or to wait for confirmatory symptoms. Marshall says (in *Syphilology and Venereal Disease*, 1906) none of the attempts at abortive treatment by destruction or excision of the chancre have been definitely successful. The chancre has been excised a few hours after its appearance, the lymphatic glands have been removed, an abrasion has even been excised before any chancre appeared, but all these measures have failed to prevent the development of constitutional syphilis.

The failure of these abortive methods is due to the fact that syphilitic infection of the system takes place very rapidly, both by the lymphatics and blood vessels. When the chancre appears the organism is already entirely infected, or, at any rate, the infection has extended over an area too large for any form of excision to be effectual.

The recent experiments of Metchnikoff,[1] however, seem to show that syphilitic infection may be prevented by early inunction of the point of inoculation with an ointment containing from 25 per cent. to 33 per cent. of calomel. After establishing this fact by a series of experiments on monkeys, the experiment was tried on a medical student who volunteered for the purpose.

[1] *Brit. M. J.*, 1906, ii. 1510.

Syphilitic virus from two chancres was inoculated by scarifications in the balano-preputial furrow; at the same time four macacus monkeys were inoculated with the same virus. An hour after inoculation calomel ointment was rubbed into the scarifications for eight minutes in the student and in one of the monkeys. Twenty hours afterwards the same treatment was applied to another monkey. The two remaining monkeys were kept for control, and developed syphilitic chancres seventeen days after inoculation. The monkey treated twenty hours after inoculation developed a chancre on the thirty-second day. No sign of syphilis appeared in the student, nor in the monkey treated at the same time, up to three months after the experiment. As Marshall points out, these experiments may require further confirmation, yet they tend to show that syphilis may be prevented by mercurial inunction of the point of inoculation an hour after infection. But he thinks the practical application of this discovery is limited, owing to the fact that the point of inoculation is not known with certainty unless there is an abrasion. Moreover, patients seldom apply for treatment within an hour of possible infection. However, if such a case presents itself, inunction with calomel ointment at the supposed point of inoculation is indicated. Pernet says[1] that every medical man, dental surgeon and midwife, liable as they are to accidental infection, should have a pot or tube of it handy in case of need, so as to apply it with as little delay as possible. Marshall, in the following week's *Journal*, suggests that the ointment should be applied before the event.

Jonathan Hutchinson says the earlier mercurial treatment is begun the better, provided the diagnosis is certain. He also thinks that many chancres are sufficiently characterised to justify immediate treatment. We should all agree, I think, that as mercurial treatment, to be effectual, must extend over rather long periods, it is a serious and unjustifiable proceeding to commence treatment until we are certain of what we have to treat. And if the pathologist can assure us of the presence of the parasitic germ, it must be of the greatest advantage; for

[1] *Brit. M. J.*, 1907, i. 730.

although this organism has not at present been cultivated, and cannot, therefore, fulfil the postulates of Koch to prove its pathogenic nature, it has been found sufficiently frequently in syphilitic lesions to justify the assumption that it is the specific microbe of syphilis.

In the case of chancres a doubtful diagnosis may be cleared up by finding the spirochæta in the exudation. It has been found almost constantly in the primary and secondary lesions of syphilis, not only on the surface of ulcerated lesions, but also in non-ulcerated lesions, such as papules and lymphatic glands, and in the viscera. It has also been found in the blood (although rarely). Several recent observations considerably modify various previous conceptions with regard to the disease: for example, the discovery of the microbe in gummata, showing that the gumma might be contagious, the fact that Levaditi has detected the spirochæte in the renal epithelium and various other organs in congenital syphilis, showing that the normal secretions, such as the urine, may be contagious.

The spirochæte has not been found in men or monkeys apart from syphilitic lesions. The reason why it has not been observed before in syphilitic lesions is explained by the difficulty in technique, and also by the fact that it is not always found. Metchnikoff failed to find it in 26 per cent. of the cases he examined. The London men tell me they have the very greatest difficulty in finding it. Thus a negative examination does not prove that a lesion is non-syphilitic, any more than the absence of the tubercle bacillus in lupus negatives the tuberculous nature of this affection. Levy Bing has shown that the spirochæta pallida rapidly disappears under the influence of mercury. Six or seven days after an injection of gray oil they became scarce, and a week after the second injection they had almost disappeared. Kowalewski, after demonstrating their presence, noted their disappearance after six injections of sublimate.

In the *British Medical Journal* for 16th June, 1906, Dr. W. R. Grove, of St. Ives, Huntingdonshire, gives brief histories of three cases of syphilis, presumably acquired from a baby 18 months old, with the inherited complaint. In each case the site of

infection was believed to be the tonsil. A leading article appeared in the same journal saying that the view that the power of infection in inherited syphilis was much exaggerated by writers in the past is very widely held nowadays, and discrediting the belief that inherited syphilis is infectious. At any rate, in the light of more recent knowledge, the editor thought many would now consider the evidence as insufficient. In the following week's *Journal* a letter appears from Mr. Jonathan Hutchinson, in which he says that he has read Dr. Grove's communication with much interest, and also the editor's comments on it not without amazement. He had supposed that the contagiousness of inherited syphilis in infants was a fact about which no controversy was possible. He said it was, as all knew, in order to explain cases in which exposure to risk occurred without ill result that Colles formulated the law now known by his name.

Mr. Hutchinson says he is quite in the dark as to what the "more recent knowledge" referred to may be. The only more recent knowledge with which he is acquainted is that which concerns the spirochæte, and this he considers is entirely confirmatory of his conclusions, as this parasite has been found repeatedly in the early lesions of inherited syphilis, and he says that as it is now held to be the efficient agent in contagion, it is difficult not to consider its presence as proof that this form of the malady may be communicable. Primary infection of the tonsil in connection with the feeding of this class of infants has been witnessed repeatedly. Mr. Hutchinson reminds his readers that not so very long ago one of our associates had to pay a considerable sum to a wet-nurse whom he had inadvertently permitted to suckle an infant suffering from syphilis, which was believed to have been inherited. He concludes by saying that he must hold that to propound unsupported doubts involves not only a very foolish heresy, but a very dangerous one; and he much regrets that it should seem to have received in any degree the support of the editorial pen of the *British Medical Journal*.

Some years ago I was asked by a lady to attend her in her first confinement. This I was obliged to decline, as there is

a rule at our Infirmary prohibiting a physician from practising midwifery, and so the patient was passed on to a medical friend. Some little time after the birth of the child the mother consulted me for an eruption on her fingers which much resembled scabies, although it did not itch. After a little interrogation as to whether she was able to suckle her baby she said, "Oh, yes!" but that it was rather painful on account of the nipple being sore. After examining this sore, I came to the conclusion that it was of the nature of a chancre, and that the child was the subject of congenital syphilis. They were both very amenable to treatment, but after a time the child developed a large liver, in all probability lardaceous disease, and died with dropsical symptoms and other signs of congenital syphilis. Well, this case was clearly an exception to what is known as Colles's law, and I have often intended to publish it. It was in 1837 that Colles, of Dublin, pointed out that the mother of a syphilitic infant, procreated by a syphilitic father, was herself immune against infection, and could suckle her child with impunity; while a healthy wet-nurse could contract a chancre of the nipple by suckling the same child. Since this time other well-authenticated cases of exception to this law have been recorded, where mothers contracted chancres of the nipple by suckling their syphilitic infants. Pernet says[1] that Colles's law is right; and that Colles's law is a law I have myself no doubt whatever. The alleged exceptions, he says, when examined, cannot hold water. It is obvious, therefore, he continues, that the mother should also be treated, especially from the point of future pregnancies.

Upon inquiring into the history of the father in my case, I found that he contracted syphilis in the usual way some years before marriage, that the treatment he received was a mere farce, and that he was addicted to alcohol, which has been well called the born enemy of syphilitics.

When may a syphilitic safely marry is a question which is not easily answered. Mr. Hutchinson differs from most other authorities in stating (as recently as June, 1906) that if the treatment has been continued for two years from the date of

[1] *Brit. M. J.*, 1907, i. 734.

the chancre a man may safely marry, but that a much longer period is necessary for a woman. He also remarked: "I have let hundreds of such patients marry, and they have never come back to me in consequence of having infected their wives, or having syphilitic children." Marshall thinks that this statement cannot be accepted as evidence of the safety of the two years' system, for, in case of failure, it is probable that the patients would not come back. In this way, he adds, the successes are recorded, but the failures unknown.

Fournier lays down the law that no syphilitic should marry for at least three or four years after the onset of the disease, and then only when the following conditions are fulfilled: (1) absence of actual lesions; (2) prolonged treatment; (3) a period of immunity from symptoms for at least one and a half to two years, during which time no treatment has been taken; (4) a benign type of disease. Fournier relates the history of twenty cases of marriage in syphilitics under two years; nineteen of the wives were infected, and there were twenty-eight pregnancies, resulting in thirteen abortions, six early deaths, six syphilitic infants, and only three healthy children.

Ledermann says: "Generally speaking, marriage may be allowed if at least five years have elapsed since the infection took place, if no more manifestations have occurred during the last two years, and if the patient has received an energetic and thorough mercurial treatment."

Baltzer is of opinion that marriage may be allowed during the fifth year, provided that the symptoms have been benign, the treatment regularly followed, and that there have been no symptoms during the fourth year. He also advises a course of preventive treatment immediately before marriage, and during the year following. In the case of a syphilitic woman, he says, preventive treatment is required for a long time, because the power of maternal transmission lasts much longer than that of paternal heredity.

Marshall thinks that any arbitrary time-limit is both dangerous and unscientific.

In referring to later forms of syphilis, a subject which resolves

itself into syphilitic disease of the arterial system, Darier says: "To study syphilitic arteritis in its widest sense is to deal with the whole pathology of syphilis." How many cases of so-called cerebral hemorrhage, heart failure and the like are due to syphilis. Arterial disease especially affects the arteries of the brain and of the heart—possibly of the spinal cord—in the earlier period, and accounts for general paralysis and tabes dorsalis in the later period.

Ferrier suggests that the terms cerebral tabes, spinal tabes, and cerebro-spinal tabes should be substituted for general paralysis, locomotor ataxy, and tabo-paralysis.

Sir William Gowers says hemiplegia from specific arterial disease is a malady in which we can make a confident pathological diagnosis from clinical facts. Every case, he says, of sudden hemiplegia—sudden, and therefore of vascular origin—occurring between the ages of 18 and 48, without Bright's disease, without heart disease, in an individual who is known to have had syphilis, may be confidently ascribed to syphilitic arterial disease. He has been through the facts of forty cases of that kind, all conforming to those conditions, and he finds that about one quarter of them occur in the first two years after acquiring syphilis, about one half in the first five years, nearly three-quarters in the first seven years, four-fifths in the first ten years, and the others are scattered over the next seven years. And as regards surgical maladies, Marshall points out that syphilitic arteritis affecting the vessels of the lower limbs may lead to gangrene, and cases of so-called "senile gangrene," occurring in middle-aged subjects, are now recognised by surgeons as usually due to syphilis. Aneurism of the lower limbs, too, is frequently due to the same cause. Or, again, effusion of fluid into a knee-joint, with sub-acute symptoms only, is often syphilitic. It differs from common rheumatism in only affecting one or two joints, and exclusively the larger ones such as the knee, and in the absence or transient nature of febrile symptoms. In gonorrhœal arthritis the affection is more acute and painful, and there is usually posterior urethritis present.

It is astonishing how authorities differ in regard to the

prognosis of late forms of syphilis. Pye-Smith says: "I confess I take a somewhat more favourable view of the outlook in cases of tabes than Sir William Gowers does. Perhaps," he says, "it is due to a smaller experience, but a few cases in which the result has been favourable make a great impression upon one; and while agreeing with him," he adds, as I am afraid all of us must as to the hopelessness of general paralysis, "I think cases of tabes are much less formidable. They are not so common, they last very much longer, often with long intervals of improvement or, at all events, abatement of the disease, before it is ultimately fatal. And sometimes—perhaps," he says, "it shows too sanguine a temperament—I have seen what looked like favourable results from mercurial treatment in tabes, whereas I do not think anybody has found such a result in general paralysis."

Jonathan Hutchinson says (at almost the same time, 1906): "Degenerative changes, such as tabes, are rarely arrested by specifics. All conditions attended by inflammatory changes, such as general paralysis of the insane, should be treated by small doses of mercury continued permanently." In his belief, if treatment of general paralysis be commenced in the very early stage a cure may be obtained, but small doses of mercury must be permanently continued. I have seen it stated that if some of the inmates of lunatic asylums had blue ointment regularly rubbed into their scalps there would be surprising results.

Dr. G. H. Savage has somewhat recently pointed out[1] that in cases of general paralysis of the insane the memory was not markedly affected. "Sometimes," he says, "as in advanced stages of general paralysis, there was a quite remarkable retention of memory, whilst in other forms of progressive mental decay, associated with alcoholism or senility, the loss of memory was the chief characteristic." Dr. Savage has also mentioned that among certain races—the Arabs and perhaps the Japanese—syphilis may be frequent and general paralysis rare. He adds that general paralysis was also said to be unknown amongst

[1] *Brit. M. J.*, 1906, i. 1344.

negroes and amongst the Irish. In his opinion syphilis required something more in order to produce this disease—alcoholism, worry and the stress of life, and perhaps large meat eating.

Widal has drawn attention to the fact that both in tabes and general paralysis leucocytosis of the cerebro-spinal fluid was constant and extremely well marked, the average being one hundred and thirty in the field. He thinks the presence of this leucocytosis is of great diagnostic importance; for example, as between tabes and peripheral neuritis, and between general paralysis and epilepsy.

However, apart from general paralysis, it has been stated that syphilis may cause all the common forms of insanity, from the most violent mania to the most complete idiocy, and, as Mott remarks, "Of all the causes of insanity, none writes with such a broad and indelible hand as syphilis." Barker says: "Considering the predilection of syphilis for the nervous system, it is remarkable that insanity is not more widespread than it is."

Some few years ago I was consulted by a male patient between 50 and 60 years of age for a sore throat. The tonsils were red and swollen with the appearance of "snail track," which is so suggestive of syphilis. There was also an asymmetrical palmar psoriasis with affection of the nails. After taking mercury for some time I sent him to see Mr. Hutchinson, who advised me to continue with the same treatment for six months. This advice was carried out very irregularly, and in addition to this drawback the patient was addicted to the alcoholic habit. After this he rather suddenly developed delusional insanity, was most restless and difficult to manage. I took ordinary precautions, and put him on gradually increasing doses of iodide, and rubbed in five per cent. oleate of mercury. Later on his relatives thought that he should be certified, but I could see that he was improving, and he very soon made a complete recovery. If I had not happened to know that this patient was syphilitic I do not think it would have occurred to me that he was the subject of syphilitic insanity. Whether this was a

case of early general paralysis cut short by treatment I am not sure.

One day a male patient about 30 years of age came to see me on his bicycle. He was exceedingly breathless, and could scarcely speak. Upon examining his chest I discovered that he had an aortic aneurism, and that one of his vocal cords was not acting owing to pressure on the recurrent laryngeal nerve. I advised him to go home to bed, and wait there till I came on the following day. I induced him to stay in bed for about three months, during the whole of which time he was taking rather large doses of iodide, and the improvement was very marked. About this time his children were being attended by their family doctor, and he asked this gentleman to examine his aneurism, and the opinion given was that he could not detect an aneurism at all. This doctor, however, suggested that Dr. Michell Clarke should meet him in consultation, and then the aneurism was found to be very much in evidence. After this the patient put himself under the care of an American doctor, who said that he quickly cured aneurism, and induced the patient to believe that he had cured him. The patient then wrote to one of the Bristol daily papers abusing Dr. Clarke and myself, and pointing out how very much English doctors were behind their American brethren. Some time after this Dr. Cory asked me to see this same patient with him, and I found him in a condition of acute mania. I thought that he would put his fist through the window pane every moment. We at once certified him, and he went to Fishponds Asylum, and I think it was through the zeal of Mr. A. L. Flemming that the aneurismal specimen found its way into our museum at the Infirmary. I have often regretted that I did not include mercury in the treatment when I had him in bed; perhaps the insanity might have been thereby avoided.

In all these nervous affections there is a simple and reliable sign which is worth special attention in making a differential diagnosis. It is that the loss of pupillary reflex to light constitutes by itself a sign which is almost pathognomonic of a syphilitic lesion of the nervous centres: the pupil is fixed.

Thus the Argyll-Robertson pupil is not the only pupillary sign of syphilis. For this help in diagnosis we are indebted to Babinski and Charpentier.

Syphilis sometimes attacks the aorta, and prepares it for aneurismal bulging. It less often limits its attentions to the aortic valves. Hale White says[1] : " As for valvular disease, the aortic valves were rarely affected alone in rheumatism. Therefore, cases of aortic without mitral disease might be attributed to atheroma, or strain, or syphilis ; and in women, as strain was rare, aortic disease was strong evidence of syphilis. The same applied to aneurism."

Some few years ago Dr. Shingleton Smith asked me to see a young woman in one of his wards at the Infirmary with symptoms somewhat resembling those of rheumatic fever. There was a loud murmur over the base of the heart, the patient was acutely ill, and seemed likely to do badly. Her symptoms did not respond to salicylates. There was an eruption over the body which was really the key to the situation. The condition had already been recognised by Dr. Smith, and the aortitis, with the other manifestations of syphilis, gave way to specific remedies, the patient made a good recovery, and I think lost all signs of the cardiac trouble, I may safely say, through the means of a skilful diagnosis.

As regards eruptions on the skin, Norman Meachen thinks that by cultivating the sense of touch it is possible to recognise whether the rash is syphilitic or not. There is he says a good deal of infiltration in a syphilitic eruption, and they all, except the macular, give one the impression as if the lesions were let into the skin, the whole structure of which seems to participate in the morbid process, and not the epidermis alone as in psoriasis, eczema, and most others.

The most inveterate case of syphilis I ever saw was in a woman who attended pretty regularly at the Infirmary for fifteen years. The disease expended itself chiefly on the face and neck, and left extensive cicatrices. There was a good deal of the intradermic form of lenticular syphilide in this case, which forms the atrophic papular syphilide by destruction of

the elastic tissue of the dermis, causing depressions simulating lineæ albicantes.

The eruption in this case was always controlled by iodides, but believing as I do that the disease is only scotched by these remedies, and not killed, she consumed a large quantity of mercury besides. I do not think she was an alcoholic, but she was badly fed, and so carried out my instructions of taking a quart of milk daily. She was also told to be in the open air as much as possible, and to sleep with an open window. Latterly I adopted the plan of intra-muscular injections of mercury, and then handed her over to Dr. Nixon, who, I believe, continued this mode of treatment. Hutchinson says intra-muscular injections are very dangerous, excepting in the hands of the expert, and should be wholly reserved for special conditions, chiefly in the army. If salivation commences, he says, it cannot be stopped except by excision of the portion of muscle containing the mercury.

This woman's husband became insane, and an inmate of the Fishponds Asylum ; probably a subject of syphilitic insanity.

Barker thinks that the cause of malignant syphilis is doubtful ; it has been attributed both to excessive virulence of the microbe, and to secondary infection with other organisms. It would appear, he says, more probable that it is due to the implantation of the microbe on virgin soil, *i.e.* on persons whose ancestors have been free from syphilis.

Whether the treatment of syphilis shall be continuous as advocated by Hutchinson, or intermittent as carried out by Fournier, is a matter of opinion. No doubt that for a time mercury increases the hæmoglobin and the red corpuscles : later on it diminishes them. This indicates that mercury should only be given for short periods at a time, and lends support to " the chronic intermittent treatment of Fournier."

There are many other diseased conditions which result from the parasitic germ of syphilis, and more especially when it is untreated in its early stages, often cases which are known as Lues insontium and syphilis ignota. Byrom Bramwell remarks : " Why is it that one man who drinks gets cirrhosis of the liver, while another man who drinks does not ? Is it that the man who

gets cirrhosis of the liver has had syphilis?" Or as he says in other words, syphilis renders the connective and vascular tissues of the liver more vulnerable to other exciting causes.

It is thought by some good authorities that syphilis is the cause of Bright's disease. Huchard says: "Interstitial nephritis, before becoming a disease of the kidney, is an affection of the cardio-arterial system."

Barker thinks that as syphilis is essentially a disease which affects the vascular system, it is rational to regard it as an important factor in the causation of Bright's disease.

Professor Poirier says[1]: "Everybody cannot have cancer of the tongue; two conditions are almost indispensable—you must be a smoker or syphilitic; and those who combine those two conditions, especially the latter, run a much greater risk than other people. Cancer of the tongue," he says, "might be called the cancer of syphilitic smokers."

Professor Fournier[2] finds that among one hundred and eighty-four cases of cancer of the mouth seen in his private practice, one hundred and fifty-five had decided syphilitic antecedents, a proportion of at least eighty-four per cent. In the twenty-nine other cases the antecedents were not given.

It has been suggested by Pernet that the spirochæta pallida swarms at night, and so may account for the nocturnal pains of syphilis. In some cases of neuritis, and especially in sciatica, if the pain is worse at night it is usually best relieved, I think, by antisyphilitic remedies.

In conclusion, gentlemen, I should like to say that no one is more conscious than myself of the shortcomings of this paper, and I sincerely thank you for your kindness, attention and patience. In the words of Faust:—

> "Expression, graceful utterance is the first and best acquirement of the orator. This do I feel, and feel my want of it."

NOTE.—Since the above address was written the cultivation of the spirochætes has been carried out in the rabbit's eye through five generations, and finally inoculation into the monkey has produced syphilis.[3]

[1] *Brit. M. J.*, 1906, ii. 1668. [2] *Ibid.*
[3] Bertarelli, *Zentralb. fur Bakt.*, 1906-7.

SOME REMARKS ON SPINAL ANÆSTHESIA AS BASED UPON THE PERSONAL OBSERVATION OF THIRTY CASES.

BY

ERNEST W. HEY GROVES, M.S. Lond., F.R.C.S.

Assistant-Surgeon, Bristol General Hospital.

So much has recently been said and written on this subject, that I do not propose to attempt any review of the history and literature, but merely to record certain points of interest and difficulty that have occurred in actual practice. It is only by the noting of difficulties and drawbacks of any new method that these may be met and eventually overcome. The operations referred to are the following:—

Colotomy	2	Bursæ	2
Hernia	7	Bone necrosis	3
Intestinal obstruction	1	Exostosis	1
Exploration of bladder	1	Hammer toe	1
Extravasation of urine	1	Amputation of toe ..	1
Amputation of hip ..	2	Varicose veins	4
Hydrocele	3	Disease of ankle joint	1

The earliest of these operations was performed on September 9th, 1904, and was for an acute suppuration round the knee joint, in a girl of 18; ¼ gr. cocaine was used and the result was very good. For the next ten cases the same method was followed. But it soon became evident that the method had great disadvantages, viz. grave danger during the anæsthesia and severe reaction afterwards, and these led to the abandoning of cocaine for stovaine, which was the agent used in all the rest of the cases. The cocaine cases were none of them of a serious character, and two instances will suffice to illustrate the drawbacks referred to.

J. W., man, aged 47. Radical operation for hydrocele. ⅕ gr. cocaine. Complete analgesia below navel; pulse fell to 72, and

became very irregular ; the face became ashy pale ; patient said he felt desperately ill. Soon revived after ½ oz. brandy, but had severe vomiting and headache afterwards.

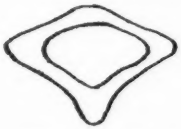
H. C., man, aged 29. Operation for removing a sequestrum from the femur. ¼ gr. cocaine. Directly after the operation his temperature rose to 104° F. with a slight rigor. This was followed by vomiting and a severe pain in the head and back, which lasted about twenty-four hours.

These, I believe, are fairly typical of the troubles which occur during and after spinal cocainisation. In its toxic effects the drug, when used as a spinal anæsthetic, causes a slowing and irregularity of the pulse which may end fatally. And in its lesser degrees this phenomenon cannot be very rare, as I experienced it twice in eleven cases. The severe headache, backache and sharp rise of temperature with vomiting are quite as or even more severe than the after effects of a general anæsthetic, and these symptoms occur very frequently.

But the era of cocaine for spinal anæsthesia is now past, and its derivatives—stovaine, novococaine and tropacocaine—are on their trial. And it may, I think, be definitely stated that stovaine, at any rate, has been proved to avoid the dangers ot cocaine, and the other drugs are even more highly spoken of, but they do not enter into the present series.

The first point to be raised is the certainty and completeness of the anæsthesia. Now this seems to depend chiefly on the possibility of injecting the fluid into the spinal sub-dural space, and this in its turn is indicated by obtaining a free flow of cerebro-spinal fluid from the canula before injection. If the fluid can be obtained freely, then the occurrence of complete analgesia after an appropriate dose of the stovaine has been injected is certain. In four of my cases the fluid could not be obtained from the spine, and in all the anæsthesia was a failure, and in most published series there have been at least 3 per cent. of failures from the same cause. And if this cannot be remedied it constitutes a very great drawback, inasmuch as one can never be so certain of the spinal anæsthesia as to be able to dispense with an anæsthetist in cases of emergency which occur at a distance from help. And it is therefore worth while to consider the causes of this failure,

in order to see whether it can be avoided. If the vertebral column be cut across between the fourth and fifth lumbar vertebræ, and again between the second and third, the following appearances are noted inside the vertebral canal. In the former case the canal consists of a triangle about $\frac{3}{4}$ in. across and $\frac{1}{4}$ in. depth, whose basal angles are very narrow. The dura is, however, closely attached to the bone. In the latter case the canal is 1 in. wide and over $\frac{1}{2}$ in. deep, with much more widely open angles. But here the dura is hardly attached to the bone at all, and if, therefore, there is not much tension in the sub-dural space, this



Section of the veriebral canal and dura between the second and third lumbar vertabræ.

Section between the fourth and fifth vertebræ.

space can easily be obliterated by the collapse of its walls. It is evident from these considerations that two causes may prevent a puncturing needle from withdrawing spinal fluid. First, the needle may not get into the vertebral canal at all, which is especially liable to occur in the lowest space; and, secondly, the needle may push the membranes in front of it, and then merely transfix the two layers of collapsed spinal theca. This is more likely to be the case in one of the upper lumbar intervals. I have found that the cases of failure have all been anæmic or old feeble people, in whom the tension of the spinal fluid is probably low. And in them also the ventricles of the brain are large, and the communication with the sub-dural space small, all of which factors would lessen the likelihood of the spinal fluid escaping from a puncture.

If these suggestions are correct, the following precautions must tend to lessen the chances of failure. First thrust the needle into the space between the fourth and fifth lumbar spines, this being indicated by the point midway between the highest points of the iliac crests. The needle should be very sharp and four inches long. It must be kept accurately in the mid-line, and

follow strictly the sagittal plane. If this fails, it is much better to try the space between the second and third vertebræ than to make repeated attempts in the same space. It should if possible, be done in the sitting or standing position with the head bent forward. The use of a needle provided with a trocar, and also with a lateral as well as a terminal opening, is to be recommended

As regards the dose required, in most cases ½ c.c. of solution (1 mg. of stovaine) is sufficient; but the susceptibility of patients varies very much, and this dose will produce a prolonged total and extensive analgesia in one patient and only a short analgesia in another. So that in cases of abdominal disease, or those in which the operation is likely to last more than one hour, it is better to use double the above dose.

But, after all, the capacity of the measure to prevent shock is its chief advantage, and upon this its use in the future will probably depend. Six of my cases illustrate this point.

T. J., man, aged 52. Old case of traumatic stricture of the urethra. High grade of retention of urine for ten days with signs of renal sepsis. Extensive extravasation of urine, the parts being gangrenous and emphysematous. Pulse 140; temperature sub-normal. 1 c.c. stovaine injection. Multiple incisions and opening through the stricture into the bladder. General condition was unchanged during the operation, but he died about three hours later.

G. S., aged 63. Old inguinal hernia. Became strangulated nearly a week before admission to the Cossham Hospital. General condition bad; small, irregular pulse; some vomiting; abdomen distended; right inguinal hernia. At 4 p.m. gave 1 c.c. stovaine and operated. Six inches of gangrenous small intestine resected, but peritonitis evidently already existed, and he died six and a half hours later. The pulse fell to 108, and he seemed actually relieved during the operation.

J. K., man, aged 60. Acute spreading emphysematous gangrene of the right leg. 1 c.c. stovaine. Amputation through the hip-joint. Pulse and general condition was better directly after the operation, but he died three hours after.

A. G., boy, aged 19. Huge sarcoma of the adductor muscles of the right thigh. ½ c.c. stovaine. Amputation through the hip by the anterior racket method The pulse and blood pressure were noted every ten minutes before, during and after the operation. The pulse dropped from 140 to 108, and the blood pressure from

115 m.m. to 70 m.m., and then rose to 74 m.m. He was bright, cheerful and constantly talking to the nurse. He complained once of feeling faint, but was better after a drink of water. A few hours after the operation he was bright and cheerful; his pulse remained at 108, but was rather small and compressible.

M. G., woman, aged 65. Had had colotomy performed eight months previously for cancer of the rectum. Intestinal obstruction had again occurred, and her abdomen was hugely distended with visible peristalsis. ½ c.c. stovaine. Median incision. Intestines matted together in the pelvis. Paul's tube tied into the small intestine. Died about twenty-four hours later.

E. A., aged 55. Strangulated right inguinal hernia; fæcal vomiting, great distension, and very poor general condition, the obstruction having lasted several days. ½ c.c. stovaine. A double loop of gut was strangulated, but not gangrenous; it was easily reduced. A very copious fluid motion, amounting to several pints, occurred on the table at the moment of reduction, and he became faint and collapsed. The whole operation only lasted twenty minutes, but he died an hour later.

These six cases represent, of course, the most desperate that can ever come under the surgeon's care, but for which an attempt must be made to save life. In four there can be no doubt that death would either have occurred on the table or without the return of consciousness. Spinal anæsthesia in such cases is of the utmost value. It almost entirely abolishes nerve shock, though of course it cannot prevent the effects of hemorrhage. It allows the patient full retention of his consciousness, and he can, at any rate, be safely returned to bed and see and speak with his relatives. And if it is possible for an operation in such desperate cases to succeed, it will have a far better chance than with general anæsthesia. With regard to the last case, I confess I am in great doubt. Other observers have noted the power of stovaine to produce intestinal contraction, and it would appear that in this instance the sudden evacuation of the bowels brought about the fatal collapse.

Then there are certain cases in which the presence of some other disease makes a general anæsthetic very dangerous. Such are particularly, severe lung diseases and diabetes. One example will illustrate this.

A. M., boy, aged 14. A congenital syphilitic, had double pneumonia, and an acute periostitis (probably pneumococcal)

of the left femur. Under ½ c.c. stovaine, the femur was cut down upon, and the bare bone exposed and drained. This had no ill-effect on his general condition, except that he had some retention of urine afterwards. He died from the pneumonia a week later.

As regards any ill-effects in the after history following stovaine anæsthesia, these are very rare. Headache, backache, vomiting or rise of temperature occur very seldom, and are almost negligible. In one instance, that of a man aged 52 with caries of the ankle-joint, an acute bed-sore developed three days later over the sacrum, and may have been due to some trophic effect of the spinal analgesia.

In conclusion, I would submit that stovaine-spinal-anæsthesia presents in ordinary uncomplicated cases no special advantage over general anæsthesia, and on the contrary has the drawbacks of an uncertainty of attainment in about 4 per cent. of cases, and of not allowing the actual dose to be graduated to suit the idiosyncrasies of the patient. But it is valuable under the following conditions in operations on the lower abdomen or legs :—

(1) Operations involving the danger of great shock. (2) Operations performed in conditions of desperation, where it is doubtful that the patient will leave the table alive. (3) In severe diabetes, acetonuria or acid intoxication, severe lung diseases. (4) In emergency cases, *e.g.* a compound fracture or strangulated hernia, where an anæsthetist is unavailable.

THE VALUE OF COMPRESSION OF THE AORTA IN THE TREATMENT OF POST-PARTUM HEMORRHAGE.

(Continued.)

BY

F. PERCY ELLIOTT, M.B.,

Medical Officer to the Walthamstow Public Dispensary.

SINCE the publication in the June number of this *Journal*, Vol. XXV., p. 121, of a case illustrating the value of compression of the aorta in the treatment of post-partum hemorrhage, I have

received many communications bearing on different aspects of the question. The treatment of post-partum hemorrhage in general practice, owing to the conditions which prevail, will always be more curative than preventative, and the circumstances at the early part of this case illustrate a state of affairs bearing out this point, and common enough in general practice. The patient was seen by my assistant when the os admitted the tip of one finger, and the labour pains feeble and irregular. Bleeding had ceased, and had not been sufficient to produce any ill-effect on the general condition of the patient, and an anæsthetic was necessary. Owing to all these circumstances, delay occurred in immediately performing version. The manner of delivery did not predispose to post-partum hemorrhage. After version was performed and a leg brought through the os, beyond keeping the child on the lower uterine segment between the pains, no interference took place until the shoulders appeared, when delivery was completed in the usual way. The comparatively rapid delivery was due to the onset of strong and frequent labour pains after a leg was brought through the os, an easily dilatable os, and to the good down-bearing efforts of the patient. The patient was not kept deeply under the anæsthetic except during the time that version was being performed.

The reasons for recording the case were to show that manual compression of the aorta, despite the assertions to the contrary made in the recent debate on the subject, (1) is a practical measure ; (2) that under certain conditions it is the only method that can be relied on for rescuing the patient from death ; (3) and that it is not necessarily attended by harm when it is employed, (*a*) before delivery of the placenta for arresting hemorrhage between the second and third stages of labour, or (*b*) when it is employed after delivery of the placenta. The case recorded serves well to illustrate these points.

Compression of the aorta as the primary part of the treatment of the hemorrhage occurring between the second and third stages of labour. After a leg was brought through the os, no further bleeding occurred until the head was delivered. The hemorrhage at this stage was obviously due to partial separation of the

placenta, an incident usual when the placenta is implanted on the lower segment of the uterus. The usual proceeding in serious hemorrhage is straightway to resort to manual separation and removal of the placenta. The cause of hemorrage, it is taught, must be removed at once. No rest is given the uterus, no opportunity afforded for natural separation of the placenta to take place; the hand is introduced into the uterus immediately, the placenta hurriedly removed. Nothing is done to obviate the necessity for this. Further, while manual removal of the placenta is being carried out, nothing is done to arrest hemorrhage; it is taken for granted that the patient will be none the worse for the additional loss of blood, and that as soon as the cause of the hemorrhage is removed the uterine forces will immediately become adequate, and remain so.

The conditions in this case demonstrate well the advantages of compression of the aorta as the primary part of the treatment of hemorrhage occurring in the interval between the second and third stages of labour.

1. It gave rest to the uterus, a desirable thing in all cases after the child is born, and especially when severe loss of blood has occurred. In the case under consideration, although there were no signs of inertia up to the time of delivery of the head, with the sharp bleeding which followed immediately, inertia appeared.

2. In addition to affording rest, compression of the aorta prevented the further exhaustion of the uterus, which would have occurred from the continued loss of blood which is inevitable until the uterus is emptied.

3. In virtue of this rest and recuperation, opportunity was given for natural separation of the placenta to take place. Complete separation of the placenta occurred within half an hour after the birth of the child, as was proved by exploration of the cavity of the uterus. Moderate pressure on the uterus was all that was required for the complete extrusion of the placenta.

4. Risk of sepsis was minimised. Owing to hurried removal of the placenta in the natural desire to remove it as quickly as possible when hemorrhage has been severe and the life of the patient is at a low ebb, small pieces of placenta are likely to be left

adhering to the uterine wall, and to be a source of sepsis subsequently. Scraping the placental site to remove such pieces of placenta is also not infrequently rendered necessary by hurried removal of the placenta. These sources of danger become much greater when the placenta is morbidly adherent. Although in this case it was necessary to explore the uterus owing to the raged condition of the lower portion of the placenta, it is not always necessary to do so in cases of early partial separation of the placenta, careful examination of it after delivery alone being often quite sufficient to obviate the proceeding. Had it become necessary in this case to remove the placenta ultimately, with the hemorrhage arrested by compression of the aorta, the risks consequent on hurried removal would have been avoided.

5. Danger of subsequent hemorrhage from retained pieces of placenta, the result of hurried removal when bleeding is severe, was also avoided.

6. The danger to life from the additional hemorrhage when the placenta is removed manually and without any steps for the arrest of hemorrhage meanwhile, was also avoided. This danger is a very real one when the patient has been already seriously drained of blood, especially when the placenta is morbidly adherent. There was no obvious feature present in this case to show that the removal of the placenta could be accomplished without great loss of blood, and although bleeding might not have been great, it would certainly have added greatly to the peril of the patient. Prompt arrest of hemorrhage was of vital importance, as, in spite of immediate occlusion of the aorta when the hemorrhage occurred, the general condition of the patient at once became very grave.

7. In addition to treating shock by arresting hemorrhage, compression of the aorta also treated shock far more quickly and in a much more effectual manner by suppressing the circulation of blood in the lower extremities. The vital centres were thus kept better flushed with blood.

In view of all these facts, I think that compression of the aorta as the primary part of the treatment of the hemorrhage at this stage was the best step to take in this case. The result fully

justified its employment. At the time when its application took place the condition of the patient gave cause for great anxiety, her pulse rising rapidly from 130 to 150 and becoming threadlike, uterine inertia appearing, and signs of general collapse being present. After compression of the aorta, within three hours, the pulse had dropped to 120, the uterus had become firmly contracted, no bleeding occurring after releasing compression, and all signs of collapse had passed off. Compression lasted for about an hour.

Compression of the aorta as the primary part of the treatment of the secondary post-partum hemorrhage. The hemorrhage in this case occurred suddenly, after a period of over eight hours' freedom from bleeding. I regret that I omitted in my former paper to mention the circumstances which attended and appeared to determine the onset of secondary post-partum hemorrhage in this case. It was stated that the patient was of an excitable nature, and it was following an outburst of mental and physical excitement that the hemorrhage occurred. The uterus, it will be remembered, had been previously thoroughly explored; no placental remains were present, and the organ had been completely emptied, and good contraction and retraction secured. There was, therefore, no question of retained portions of placenta or chorion. As secondary post-partum hemorrhage is not uncommonly associated with mental and physical excitement, it is reasonable to assume that in this case the hemorrhage was due to separation of thrombi in the uterine sinuses, induced directly by such a cause. When the patient was seen shortly after the occurrence of the hemorrhage, she had already passed rapidly from faintness, restlessness, and air hunger to cyanosis, convulsion, unconsciousness, and loss of wrist-pulse; respiration had ceased, and the patient was apparently dead. She was lying in a pool of blood, and the uterus extended into the epigastrium, and was full of blood-clots. Massage at this time failed to evoke the slightest response. The uterus was immediately forcibly squeezed and emptied, and pressure then applied through the flaccid and attenuated organ on to the aorta, the feeble pulsation of which showed that life was not yet extinct. With the patient in this

moribund condition, any method of stimulating the uterus would have been utterly futile. Animation had first of all to be restored, and only prompt arrest of all bleeding and prompt and powerful treatment of shock and collapse could accomplish this. Hemorrage could not have been arrested by endeavouring to rouse the uterine forces. Contraction and retraction, the securing of which we look on as the final end to be obtained for the permanent arrest of hemorrhage, were completely absent. These forces had first to be restored before they could take part in the arrest of the hemorrhage, and their restoration had to be complete if they were to be relied on for permanently arresting the hemorrhage. For the restoration of these forces, it was first of all necessary for all bleeding to cease. Clotting of the blood in the uterine vessels is the only means of arresting hemorrhage when contraction and retraction are absent. It was necessary to arrest bleeding immediately. The methods of inducing clotting, as advocated in text-books, aim at applying pressure to the bleeding part. The use of perchloride of iron injection is regarded as dangerous and uncertain, and is obsolete. Pressure on the placenta site by plugging the utero-vaginal canal would have been useless here, as its success depends on a certain amount of remaining energy in the uterus ; and, again, it could not have been carried out completely before the patient died. Injection of hot water would also have been useless. Compression of the uterus is the method recommended for arresting hemorrhage when the uterine forces are completely exhausted. What were the chances of success of this method in this case at the time when compression of the aorta was adopted ? There were several features present which rendered compression of the uterus an uncertain method for rescuing the patient.

1. Prompt arrest of hemorrhage was imperative. To have introduced the unsterilised hand into the vagina and apply pressure to the uterus, even although the hand was not introduced into the uterus, would have been to incur great risk of sepsis. The patient certainly must have died long before the aseptic ritual was complete.

2. The bleeding area was situated on the lower portion of the

lower uterine segment. Compression of the body of the uterus would not have ensured perfect pressure over the whole of the bleeding area for this reason, and for another which will be mentioned later. Compression of the uterus by pushing the cervix forward with one hand and anteflexing the body with the other, rarely finally arrests hemorrhage, and, as will be shown, did not admit of satisfactory application in this case. Compression with one hand inside the uterus on the placenta site and the other on the abdominal wall, is a very uncertain way of arresting hemorrhage when the uterine forces are entirely absent. The risk of sepsis being much greater than with any other method of compression, and owing to other circumstances present in this case, it could not be employed for arresting hemorrhage even temporarily.

3. The uterus extended into the epigastrium. It would have been perfectly impossible to compress such an unwieldy organ satisfactorily.

4. Notwithstanding prompt arrest of hemorrhage, contraction of the uterus did not reappear until after an hour's compression of the aorta, and it was not until some considerable time after this that contraction remained satisfactory. Owing to the desperate condition of the patient during the greater part of five hours, it was necessary to prevent any further loss of blood during this period. Compression of the uterus by any method cannot be kept up continuously for any length of time, and there is no certainty that loss of blood will not occur during the intervals of changing compressors.

5. Shock and collapse were extreme, and demanded prompt and powerful measures of treatment. Compression of the uterus alone would not have treated shock and collapse promptly and effectually enough in this case, and the life of the patient was at too low an ebb to have responded to such auxiliary measures as hypodermic administrations of strychnine, ether, &c.

Compression of the aorta was the only method that offered any chances of success in the treatment of the secondary post-partum hemorrhage in this case. The advantages of the method were well shown in this case. It could be applied immediately; its satis-

factory application was quite unaffected by the position of the placental site, or by the dimensions of the uterus ; it could remain continuously in action for many hours, pressure being maintained longer by one individual than can be in compression of the uterus, and the changing of compressors not being accompanied by loss of blood ; it treated shock promptly and much more powerfully than compression of the uterus would have done.

Twelve hours after the moribund condition of the patient, the pulse had dropped to 100, and was strong and fairly full, all signs of collapse had disappeared, the uterus was firmly contracted, and no bleeding whatever had occurred since its arrest at the beginning of this period. Death occurred from heart-failure due directly to sudden and violent exertion about fourteen hours after the cessation of bleeding. At the time of its occurrence no further bleeding took place, the uterus being firmly contracted, and remaining so.

The fact also that posture, bandaging of the extremities, and saline transfusion formed a part of the treatment of the case does not affect the chief points at issue. Although these measures were employed, and were of unquestionable value, compression of the aorta formed the most important part of the treatment ; without it nothing would have been accomplished. It might be argued that it would have been a better plan to douche out the uterus with hot water while the hemorrhage was arrested by compressing the aorta. The effect of hot water on severe hemorrhage cannot always be relied on, and in this case it would have been unwise to employ a measure which is not always certain.

The objections to compression of the aorta. The chief objection urged against its use is its alleged detrimental interference with the functions of the uterus by curtailing its blood supply.[1] Although the blood-supply of the uterus by the uterine arteries is prohibited when the aorta is occluded, on anatomical grounds, quite enough blood should reach the organ by the ovarian arteries to enable it to contract and retract to the extent necessary at least for the *separation* of the placenta, and for the complete arrest of hemorrhage. The portions of the uterus chiefly affected when

[1] Fitzgerald, *Practitioner*, 1906, lxxvii. 652.

occlusion of the aorta takes place are the cervix, the lower uterine segment, and the lower portion of the upper uterine segment. The fundus receives a large part of its blood-supply from the ovarian arteries[1]. Free anastomosis exists between the branches of the ovarian and uterine arteries, especially in the upper uterine segment. When occlusion of the aorta takes place, the supply of blood is greatest in that portion of the uterus in which muscularity is greatest. From an anatomical point of view, therefore, a fair amount of blood should find its way to that part of the uterus which is most concerned in contraction and retraction. The question is whether *actually* a sufficient amount of blood is supplied to the uterus when the aorta is occluded to allow of the contraction and retraction necessary for the expulsion and separation of the placenta, and for the arrest of hemorrhage. This case supplies abundant clinical evidence on the last two points. When compression of the aorta took place before delivery of the placenta, during its application the uterus was observed to contract. At the end of half an hour the placenta still remained undelivered. The uterus was then grasped with one hand and pressure applied on the fundus, and in the direction of the sacrum. This proceeding resulted in immediately effecting complete extrusion of the placenta. The pressure exerted was not unusually forcible, being about the same as is required when the placenta has separated and is merely lying in the lower uterine segment. The question of the placenta not having separated did not suggest itself, owing to the ease with which it was expressed. The reason for introducing the hand into the uterus after delivery of the placenta was because the lower portion of the placenta—the early detached portion—was in such a ragged condition. As has been mentioned, there were no placental remains found when the uterus was explored, and this fact supports the conclusion that complete separation had occurred when expression took place. That the application of compression of the aorta before delivery of the placenta, and in the treatment of the secondary post-partum hemorrhage, did not interfere with the contraction and retraction necessary for arresting hemorrhage, is clearly proved by the record

[1] Jellet, *Manual of Midwifery*, 1905, p. 47.

of events. When compression was used before delivery of the placenta, no hemorrhage followed the release of compression, and an interval of eight hours' freedom from hemorrhage ensued, and the cause of the hemorrhage at the end of this period was quite unconnected with compression of the aorta. When compression was employed in the treatment of the secondary post-partum hemorrhage, contraction and retraction were completely absent. After an hour's compression, and during its application, the uterus hardened, became smaller, and massage, which previous to compression of the aorta failed to produce any effect, soon succeeded in bringing about firm contraction. No bleeding followed the release of compression. Further, the contraction and retraction resulting remained perfectly adequate up to the time of the patient's death, from heart-failure, eight hours after the discontinuance of compression. These forces indeed must have been unusually adequate, for in spite of the patient jumping out of bed, the loss of less than a tablespoonful of blood followed the incident. Even after death the uterus was still firmly contracted.

I think, therefore, that conclusive evidence was furnished that compression of the aorta did not affect injuriously the contractile and retractile functions of the uterus in their power for accomplishing separation of the placenta, and for arresting hemorrhage, either when its application took place before or after delivery of the placenta. The evidence derived from this case on these points is very valuable. The fact that the placenta separated naturally, and that contraction and retraction, which were previously completely absent, reappeared, and in spite of five hours' occlusion of the aorta, remained permanently adequate, is sufficient proof that compression of the aorta I think did not interfere with the power of the uterus for affecting separation of the placenta and for arresting hemorrhage.

The irksomeness of the method is another objection that has been brought against compression of the aorta. The maintenance of adequate pressure is not as irksome as would appear to those who have not employed compression of the aorta. It is certainly very much easier to keep up effectual pressure on the aorta than it is to compress the uterus bi-manually for even a short

time. Although it was necessary in this case to keep up pressure for five hours, the circumstances were exceptional, one hour's compression being an outside limit in most cases, according to those who have used the method frequently.[1] An intelligent nurse can easily apply pressure, and as it is easy to prevent loss of blood when changing compressors—the new-comer placing the fist above or below that of the compressor before the latter releases pressure—no disadvantage attaches to changing compressors as often as may be necessary. The danger of reactionary hemorrhage and of syncope following the discontinuance of compression are avoided by withdrawing pressure gradually. With regard to the other objections brought forward, these are not of great importance, being easily overcome if compression is properly employed. These objections and the means of overcoming them were mentioned in my former paper.

In conclusion, I may say that I have used compression of the aorta on another occasion since in consultation, and this further experience has served to strengthen the conclusions arrived at in this case. The method as the primary part of the treatment of hemorrhage between the second and third stages of labour, due to partial separation of the placenta, possesses great advantages over immediate manual separation of the placenta, in those cases where serious exhaustion has been produced from tedious labour or loss of blood. If, after waiting half an hour, the placenta is not expelled naturally no harm is done, hemorrage being arrested; on the contrary, rest is given the tired uterus. Pressure on the uterus can then be tried, and if this fails to expel the placenta, or if the expressed placenta is incomplete, the uterus can then be emptied by introducing the hand, compression of the aorta continuing until the organ is completely emptied, and contraction and retraction complete.

[1] Stanmore Bishop, *Practitioner*, 1906, lxxvii.

A CASE OF GENERALISED SARCOMA, WITH BLOOD CHANGES.

BY

F. G. BUSHNELL, M.D.,

Pathologist, Stephen Ralli Memorial, Brighton.

JESSIE, æt. 21, under the care of Dr. Maynard. Patient was admitted on 24th September, 1906, for severe epistaxis and a hemorrhagic and purpuric eruption. There was a history of epistaxis occasionally for years. She was taken ill suddenly three weeks previous to admission with sickness and vomiting. On admission, there was considerable anæmia. There were enlarged, softish glands in the neck and axillæ. The splenic dulness extended to the costal margin, and the liver dulness from fourth rib to one finger's breadth below border of ribs. There was a hard, slightly movable, tender, nodular mass of tumour in the pelvis to each side of middle line, with a general tenseness of abdomen. The breasts were very tense, hard and nodular, and were said to have been so for three weeks. There were hemorrhagic purpuric spots on the arms and legs.

The temperature was 101.6° on admission. It rose on 26th September, 1906, to 106.2°, with a severe rigor. The patient died on the 27th September, 1906, at 2 a.m.

Post-mortem findings (by Dr. Nockald).—Malignant new growth of ovaries, retroperitoneal glands, mesentery, omentum, portal fissure, liver and breasts, peritoneal effusion, subcutaneous and petechial hemorrhages.

The thoracic viscera were not examined, permission being refused. For this reason also a limited examination of the bone-marrow could only be made.

The subject was a well nourished girl. There were numerous subcutaneous hemorrhages, especially on the outer side of the left leg, and on the inner side of the right leg. There was also a petechial eruption, most marked on the legs. On opening the abdomen, a moderate quantity of dark yellow fluid was found in the peritoneal cavity. The great omentum was matted together, and contained masses of what appeared to be new growth. These were diffuse, and on section had a pearly lustre and showed hemorrhages. The mesentery had undergone a similar change, which was generally most marked near the intestine. The iliac glands on the left side were not distinguishable as such, but their site was occupied by

a large mass of growth similar to that in the omentum and mesentery, which reached from the fourth lumbar vertebra along the brim of the pelvis almost to the pubic bones.

The right ovary was large and nodulated, firm in consistence, and showed a blood cyst about two cm. diameter on the surface. It was not adherent to any of the surrounding structures. On section, the mass was solid, tough, and showed hemorrhages, and had all the appearance of a sarcoma. There were no naked-eye evidences of ovarian tissue. The left ovary was similar in appearance to the right, but only about half the size.

There were small masses of growth beneath the peritoneal covering of the uterus, particularly on the posterior surface. The cavity of the uterus was somewhat larger than normal. The vagina was normal, also the kidneys and supra-renal capsules.

The liver was rather pale ; the hilum contained masses of new growth. The gall-bladder was very thickened, apparently by inflammatory change (microscopically, this was seen to be sarcomatous). The spleen was slightly enlarged, but externally and on section was normal.

The breasts were firm, and contained numerous nodular, rather hard masses, which resembled new growth on section, and were hemorrhagic. Glandular breast tissue was seen between the nodules.

Microscopic examination.—The blood, ovaries, lymph glands, mesentery, oviduct, uterus, liver, gall-bladder, marrow and breasts were examined microscopically by ordinary (hæmatoxylin and eosin, Van Giesen) stains, by Pappenheim's pyronin methyl green, by Leishman's blood stain, and by eosin methylene blue stain in order to study the nature of the neoplasm and its relationship, if any, to inflammatory tissue, or to the lymphocytes of the blood. Micro-organisms, too, were searched for by Gram-Weigert's method of staining, but cultures of the blood were inadvertently not made before or after death.

The *ovaries* show polyhedral or rounded cells, with large nuclei and small amount of cytoplasm ; rarely they are swollen and dropsical. The latter usually is acidophilous. Between the cells are delicate fibrils ; in places the arrangement is alveolar. There are areas of degeneration and hemorrhages. In places there is a loose connective tissue with round or spindle cells, and red-blood cells are present. There are many thin-walled blood vessels.

The breast.—The fat or fibrous tissue is diffusely, and in places densely, infiltrated with large rounded cells resembling those in ovaries and is vascular, very necrotic and hemorrhagic.

The liver.—The portal fissure is the seat of a round-cell growth, which diffusely penetrates the liver and its capillaries ; the periportal tissue is infiltrated far away from the fissure.

The mesentery and omentum show growths of polygonal cells

infiltrating the fat. The cells have large nuclei, with granules of chromatin and a thin rim of protoplasm.

The walls of the gall-bladder and the folds of its mucosa are infiltrated densely with round cells.

The oviduct (left near ampulla) has undergone sarcomatous change; also the iliac glands.

There is sarcomatous tissue between the uterus and bladder, and diffusely throughout the pelvic viscera. The rib marrow was fatty.

Some of the cells are large, with two or more nuclei, but there are no large giant cells. As a rule, the cells are larger than mature lymphocytes.

No leucocytes or plasma cells appear.

The patient died three days after admission, and the day before death had 50 per cent. hæmoglobin, 2,960,000 red cells and 13,400 white cells, with a colour index of 0.83, and 1 white to 222 red cells. There was a marked relative lymphocytosis.

Blood examination.—Hæmoglobin, 50 per cent.; reds, 2,960,000; whites, 13,400; colour index, 0.83; white to red, 1 to 222. Polynuclears, 13.0; large lymphocytes, 37.3; small lymphocytes, 29.1; transitionals, 12.6; eosinophil polynuclears, 1; myelocytes, 3.4; large hyaline, 2.1.

This case is one of great interest, as it illustrates the close association of sarcomata and blood diseases. I have seen lymphocythæmia with deposits in the liver, kidney and marrow, and not markedly affecting the lymph glands; and again lymphocythæmia has been found with malignant mediastinal growths. Lymphadenoma has recently been described showing malignant (sarcomatous) infiltration of adjacent structures, and lymphosarcoma and sarcoma are found to occur with or without relative white cell changes in the blood. Daniels says that sarcomata always possess a stroma; otherwise lymphosarcoma is characterised by continuous infiltration, suggesting a direct infection by lymph paths, whereas sarcoma is said to form metastases more frequently. (The distinction of lymphosarcoma from Hodgkin's disease by the infiltration of the lung in the former can no longer be maintained.)

I would place our case among the sarcomata, though I admit that the various deposits were not proved to be truly "metastatic" beyond doubt. It is characterised by the marked "relative lymphocytosis" of the blood of the large cell type, by its hemorrhagic eruption, and its diffuse growth (as seen in the mesentery, omentum and portal fissure of liver). It is thus

illustrative of the sarcomata which are at one end of the scale, of which lymphocythæmia is at the other. This supports the view taken by Banti that both myeloid and lymphatic leukæmias are true tumour developments, a sarcomatosis of medullary and lymphatic elements respectively. Banti believes a lymphocytosis may be mistaken for a discharge of sarcoma cells. It is suggested by Salaman that the clinical differences in these cases are physiological, and depend on the stage of development of the lymph-cell forming the tumours, in some cases resembling the finished lymphocyte; in others, and more malignant ones (as this of ours), resembling the lymphogonia of the germinal centres.

The sarcomatous nature of infective venereal tumours in dogs was described at the last meeting of the Pathological Society of Great Britain and Ireland, and has been confirmed by Seligmann. (They are similar to those described by Bellingham-Smith and Washbourne.) They are not the result of direct extension only, but may show true metastasis (*e.g.* into the testis). These tumours are then, as Hoch says, contagious malignant neoplasms, usually locally malignant. Our case showed no disease of vulva or vagina, and there is no evidence to place it in this category.

The connection between the sarcomatosis and the cutaneous hemorrhages is unknown. Engel Martens and Douglas obtained experimentally no specific precipitation of blood to cancer. Von Dungern, Beebe and Pearce, in the *Journal of Experimental Medicine* (vol. 7), have shown that hæmolytic and hæmagglutinative properties exist in a serum obtained by injection of various crushed tissues, mixed with blood, into an animal. It is possible such anti-bodies were circulating in this patient's blood; and if so, their presence was dependent on an affection of the blood itself.

Whether the blood was altered in its alkali content is not known. Neither did I find evidence of the phenomena observed by Farmer, Wallien, and Moore in the leucocytes in the active zone around early cancers. These indicated an interchange between the chromosomes of the daughter nuclei of the leucocytes

and tissue cells after mitosis. No evidence of an infectious nature, or of "evolutionary" changes in the tissues, was observed. That Nature has some function for this apparently purposeless proliferation is certain.

A word may be said as to nomenclature of this disease. Warthin suggests "leucoblastomata"—based on Powell White's classification apparently—and "malignant lymphomata" or "multiple sarcomata," and "sarcomatosis" are suggested (among others) by some authorities.

In respect to the relation of lymphosarcoma to Hodgkin's disease, Gibbons records nine cases of Hodgkin's disease, with five autopsies, in which the blood picture was normal, and there were no relative changes in leucocytes. The glands showed the proliferation of the germ centres of follicles and endothelium of sinuses, and presence of giant cells, eosinophils, and a few plasma or polymorphonuclear cells, with changes in connective tissue structure, as described by Reed and Longcope, Simmons, and others. In the hard variety peculiar giant cells and small lymphocytes are striking features. The capsules *showed* infiltration, and even penetration (and incidentally the capsules were seen to be secondary envelopes). The muscle cells may be invaded, destroying them, or the submaxillary gland be invaded. The metastases present certain features of lymph glands; the boundaries usually are sharply defined, but without a capsule, and may infiltrate and destroy tissues around. In the spleen they may appear in Malpighian bodies, and stretch out as ill-defined nodules into the pulp.

The metastases in the lungs showed that they were not alone developments of pre-existing lymphoid tissue in organ, but malignant metastases pushing into adjacent tissue and destroying it. They occurred, too, in the lower lobe, and away from a bronchus.

The five autopsies of nine cases showed involvement of lymph glands all over the body, with metastases in liver in four, in spleen in four, in kidney in two, in lungs, pericardium and pancreas in one each. Of other four not coming to *post mortem*, one showed involvement of all the external glands.

In lymphadenoma Andrewes describes a loss of all germ centres, diminution of lymphocytes, increase of reticulum, and the presence of eosinophil cells and giant cells. Thus lymphocytes, lymphoid tissue, and connective tissue may be affected by a proliferation which can only be described as malignant, and lymphocytes, plasma cells and fibroblasts have been observed to be stages of growth by which wandering blood cells become fixed tissue cells.

PROPORTIONAL REPRESENTATION AND THE COMPARISON OF RADIOGRAPHS.

BY

WILLIAM COTTON, M.A., M.D., D.P.H.,

Member of the Council of the Röntgen Society.

NOT only does the radiograph of any part of the body need interpretation singly, but it may as regards the outlines depicted require to be compared with any other of the same part in others as one of a series of cases. In the attempts made up to now to adapt the radiographic art to clinical uses, one essential principle at least seems to have been almost entirely ignored, namely that (for reliable comparison of radiographs of corresponding parts) the distance of the focus tube from the parts to be represented should be proportioned to the size of these parts. In other words, corresponding parts of objects differing in size must be radiographed under equal angles if the resulting radiographs are to be at all comparable one with another.

The possibility at all of clinical radiography rests on the underlying assumption—till it is disproved—that in persons who are about the same age, and who are of the same sex, and of the same degree of fatness and leanness, but who differ in size, the corresponding regions of the body are in the geometrical sense *similar* to one another in their dimensions—that is, are enlarged or diminished models of each other—except in so far as their proportions may be altered by the effects of disease or of

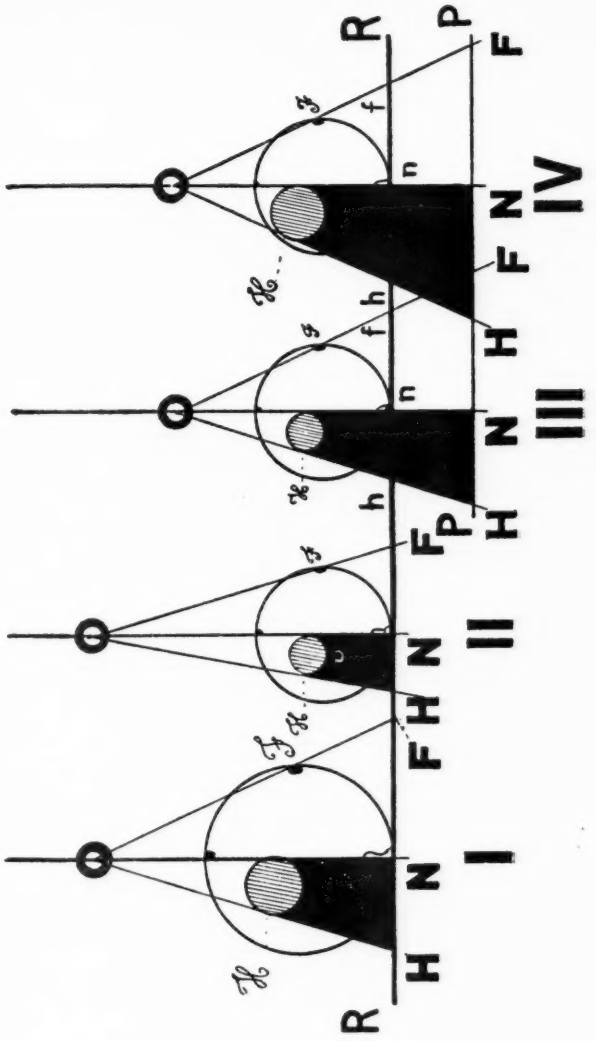
injury, or it may be by movement. This assumption is probably rarely quite true over the whole body, as where, for example, the man 5 feet 8 inches in height takes "tens" in boots, while his friend, who measures 5 feet 10 inches, gets along comfortably with "eight and a half." Yet so far as the feet are concerned, the bony skeletons of the larger feet are probably more likely to be *similar* to those of the smaller, each to each, than the containing pairs of boots, though these might very well be so too. One cuboid bone is to be regarded anatomically as *similar* to another. The assumption is probably approximately true in reference to the bones and bony distances of such segments of the axial and appendicular skeleton, and to such organs as the liver and heart, as are likely to come within the purview of the radiographer. According to this assumption, if we take two normal frozen bodies of the same age, sex and build, but differing in size, and if we make sections through them in various directions, we would expect on the surfaces of any pair of sections made in the same direction to be able to draw any number of triangles we please by a network of intersecting lines drawn between points corresponding anatomically, and we would expect to find by measurement that each triangle in the larger or smaller section would be *similar* respectively to the corresponding triangle in the smaller or larger section in every parallel pair of sections cut. Any dissimilarity observed would be the mark of abnormality.

But if this fundamental assumption be proved untrue, then there is an end at once to any exact use of radiography by the clinical surgeon or by the clinical physician. Nevertheless, for the purposes of the present argument, it is held to be *prima facie* true, and my present contention is that for proper comparison of radiographs *similar* parts in subjects of different size must be X-rayed under equal angles, that is at a distance of the focus tube from the parts proportional to the size of the parts.

In X-raying a part of the body for diagnosis, we virtually run a sheaf of sections simultaneously through the part of the body under examination, these sections being innumerable and radiating through a common Axis (the radiographic Axis),

namely the particular ray that passes through the centre of the object we wish to take. At the same moment we *project* a sort of linear image of some of the contents of each intervening section upon the intersecting plane of delineation (plate or screen) by means of such of the rays emanating from the anticathodal point of emission (the radiographic Centre) as may survive the obstacles in their path. In radiographing for comparison the same region in a small man and a large one of the same age and build, if the Axis passes through corresponding anatomical points and the Centre is *similarly* situated to the parts, then the two resulting radiographs will be *similar* the one to the other on all parallel planes of delineation; and if the distance of the plane of delineation from the Centre of the focus tube in the one case is *equal* to the distance of the plane of delineation from the Centre of the focus tube in the other, then the resulting radiographs (barring morbid changes of size and shape) will not only be *similar* but *equal in every respect*, as might be proved by actual superposition. In geometrical parlance, the *projections* of *similar* solids on parallel planes by points *similarly* situated are *similar*, and may be *equal*.

In illustration of the foregoing remarks, I have tried in the accompanying diagram to show, as simply as possible, by means of four very conventional figures, what one might expect to find radiographically in the case of corresponding sections of three individuals, one of whom is larger than the other two, these two being equal in size externally. The larger circles represent sections of the thorax made transversely to the long Axis of the body, about the level of the fourth costal cartilage in front and the ninth dorsal vertebra behind, viewed from above. The smaller enclosed shaded circles represent the respective hearts. O is in each case the anticathodal Centre of emission, and O N is the radiographic Axis, drawn in each case through the right border of the sternum in front, and a point on the right side of the body of the ninth dorsal vertebra, proportionally distant from the mesial plane of the body. This Axis touches the right border of the heart, known to be *similarly* situated in I., II. and III. $\mathscr{S}$ is the extreme limit to the right


R
P
F
f
n
N
IV
H
F
N
III
H
P
F
h
n
N
II
H
F
H
N
I
R

at the level chosen of the thoracic cage, namely an angular portion of the shaft of the fifth rib. The line R R represents the radiographic plane of delineation; the shorter transverse line P P parallel to the last, a plane of photographic enlargement of the radiographs in III. and IV., producing as it were (by appropriate use of the enlarging camera) the primary image in the X-ray plate to the same scale as the radiographs in I. and II.; O N (that is the distance of Centre from P P) in III. and IV. being made equal to O N in I. and II. (that is the distance of Centre from R R). The black represents in each case the shadow or *projection* H N and h n of the opaque hearts; and N F and n f the projection of ℱ and of all the intervening space between O N or O n and O F or O f. In all these cases the radiographic plate or screen is supposed to be as close to the posterior wall of the thorax as possible, *i.e.* in contact with the body according to the prevailing practice to secure greatest degree of clearness of image—and the Axis to be at right angles (what is called *normal*) to R R, so that when the radiographs were taken the distances between O and the remotest part of the body from O along the Axis and the distance of O from the plate coincided. It need not, however, have been so; theoretically for comparability of results the essential distance is the distance of O from the body at N (I. and II.) and n (III. and IV.); and the essential in regard to the plates is that they should be parallel to each other. Nevertheless it is of the highest practical convenience that the plates should be at right angles to the Axis at N, and as near N as possible. The distance of the parallel plates or screens from O is not essential as a matter of geometry, though it is of great importance for shortness of exposure that this distance should be as small as possible; but we do find that when the distance of the plate from O in one case is equal to what it is in another, then the two plates are on the same scale, and can be compared by superposition, provided always that the axial distance of the object from O in the one case is to that of the other *similarly* proportioned to the respective size of the objects.

In I. and IV. the hearts are equal in size; II. and III. are representations of the same individual.

In I. the axial distance of O from the remotest part of the body has been purposely made equal to twice the distance of ℱ, from the tip of the spine of the eighth dorsal vertebra. It might, of course (subject to technical difficulties) have been made any other multiple of any other distance between bony landmarks ; in practice (so long as we stick to the same multiple or sub-multiple of corresponding distances) no doubt in future it will be found convenient to take the distance between O and the nearest point of the body along the Axis, and make it proportional to the thickness of the body perpendicular to the plate. In II. the axial distance of O from the remote part of the body is the same length as in I. ; but in III. and IV. the axial distance of O from the remote part of these bodies is a length the same multiple of the distance of ℱ from the eighth dorsal spine of these bodies, as O N is of the corresponding distance of ℱ there in IV. from the eighth dorsal spine of that body, namely 2.

These elements will be found tabulated in the annexed paradigm. The unit of measurement employed would amount to about a quarter of an inch in an actual radiograph of the chest.

Now it is evident that from the actual radiographs I., II., III. and IV., different radiographic experts would come to different conclusions with more or less reason on their side.

For instance, one radiographer would carefully measure H N and h n ; he would make out the heart in III. to be somewhat and the hearts in I. and IV. greatly enlarged, taking no doubt the heart in II. as the normal, and acting on that curious principle in the morbid anatomy of the heart, whereby hearts always appear to be larger and never smaller than each other. But II. and III. are the same person ; therefore the same object is at the same time larger and smaller, which is absurd. Another expert more philosophically would go by the ratios of H N or h n to N F or n f, N F and n f being the projections of ascertainable parts. He would probably make II. the standard, and regard the hearts of I. and III. as "equally enlarged" and of IV. as greatly so. On its being pointed out to him that II. and III. were from the same original, he would at once ask for the

PARADIGM. SOME ELEMENTS OF THE DIAGRAM COMPARED.

Individuals.	Figure.	Plane of Delineation.	Dimensions of Shadow.	Ratio of Dimensions of Shadow to projection of ℭ	Axial distance of Anticathodical Centre from remote point of individual.	*Normal* distance of Anticathodical Centre from plates.	Distances of fifth right rib from spine of eighth Dorsal Vertebræ.
1	I.	R R Radiographic	H N = 33	$\frac{H N}{N F} = \frac{33}{50}$	2 D	2 D	= D = 53
2	II.	R R Radiographic	H N = 20	$\frac{H N}{N F} = \frac{20}{32} = \frac{31}{50}$	2 D	2 D	= d = 38
2	III.	R R Radiographic	h n = 29	$\frac{h n}{n f} = \frac{29}{36} = \frac{33}{50}$	2 d	2 d	= d = 38
2	III.	P P Photographic enlargement	H N = 33	$\frac{H N}{N F} = \frac{33}{50}$	2 d	2 D	= d = 38
3	IV.	R R Radiographic	h n = 35	$\frac{h n}{n f} = \frac{35}{36} = \frac{49}{50}$	2 d	2 d	= d = 38
3	IV.	P P Photographic enlargement	H N = 49	$\frac{H N}{N F} = \frac{49}{50}$	2 d	2 D	= d = 38

distance of O from the plate in each case; and on learning that O N and O N in I. and II. were *equal*, and that O n and O n in III. and IV. were *equal* to each other, but shorter than O N in the other pair, he would put I. and II. apart from III. and IV. as belonging to two series not comparable with each other, and proceed to X-ray IV. anew, making the distance of O from n therein *equal* to what it was in I. and II.

How, then, are these discrepancies to be reconciled? To avoid a task for which I feel personally unfitted of a rigid mathematical demonstration, I now venture under the form of an apologue to introduce a semi-mythical personage, whose methods of procedure are not unfamiliar to the readers of this *Journal*.

In a certain far country, lying towards the Great River, even the River Euphrates, there lived two learned hâkim or physicians. The one of them belonged to the sect of the millimetrists, the other relied on what he called common sense. Both had graduated and postgraduated with credit at a northern university of the Giaour, and had returned to practice the arts of medicine among their confiding kinsfolk at home. These two had met for the purpose of comparing some radiographs they had taken in the case of two or three of their patients. The patients complained of symptoms compatible either with indigestion or heart disease. The radiographs resembled the hypothetical cases of my text, and the two learned physicians came almost to blows over the very discordant indications thereon. At last, staggered by the discovery that II. and III. were from a patient whom they were both attending to at the same time, unknown to each other, they at length agreed to lay their differences before a certain wise man named Zadig, who had a great local reputation for setting down disputants and putting a full stop to people's troubles, and, in short, for seeing farther into a haystack than most. The last, having heard what they had to say with true oriental politeness, and having elicited from them some such particulars as these I have tabulated, retired into a small obscure chamber in the interior of his dwelling. There, having lighted a little taper of wax (which he kept near his bedside during the hours of darkness in case of being aroused by the

robbers who infested that neighbourhood), he proceeded to throw on the white walls of his dark room the shadows of a sheep's heart and of some ribs of mutton (carefully denuded of flesh), which he happened to have by him. In doing so he watched attentively the various grazing contours made by his little cone of light upon the objects in his hand, as he passed his taper to and fro and back and forth. Having again emerged to the light of day, he sat awhile meditating, and drew on the sand with a twig some such diagrams like to those on page 329. Then slightly closing one eye, he thus addressed his expectant listeners in the sententious manner affected by eastern pundits :—

" Brothers, peace be with you. It is vain to fight about shadows. Life is short, art is long, and a straight line is the shortest. Truth lies on both sides. Clearly, my brethren, in II. the triangle O H N is not comparable with the triangles O H N and O h n in I., III. or IV., nor the triangle O N F there with O N F and O n f in the others, the two angles at O in II. being respectively unequal to the corresponding angles at O in the other three figures. Hence in II. the ratio of H N to N F cannot be compared to the ratio of H N to N F or of H n to n f in I., III. or IV., or in any other figures taken with the same proportional distance of O from the object, as in I., III. or IV. So, friends, you had best lay aside the radiograph II. ; it is but a single term of another series ; for I do now perceive, that the heart being unto X-rays a smooth and globular organ, unless it be radiographed under the same angle at O in all cases, it is the shadow of a different profile that will be cast in each case. Whereunto let the stereoscopists take heed.

" But in I. and III. the triangles O H N and O h n are both *similar* to each other, and likewise the triangles O N F and o n f ; so that H N : N F : : h n : n f. So I conclude that the hearts in these two men are not disproportionately enlarged as compared with the rest of their chests ; and I prognosticate that they will do well whenever you do cease to treat them. Praise be to Allah ! hearts are trumps, not spades. Further, I do reckon that the size of the heart in the one is to the size of the heart in the other directly as the size of the thorax in each.

"But in regard to the original of IV., I perceive he is in a very bad way, for I doubt not his heart is either much larger than it ought to be, or else it protrudeth out through the front of his bosom. If he live long enough, he will surely die. For though the triangles O H N and O h n in IV. are *dissimilar* to O H N and O h n in I. and III., yet verily the triangles O N F and O n f in I., III. and IV. are to each other *similar*, and the ratio of H N to N F and of h n to n f in IV. is much greater than the ratio of H N to N F and of h n to n f in I. and III. Nevertheless, I cannot tell you how much larger the heart of IV. is than the hearts of I. and III., unless you can assure me that the right border of the heart in IV. is *similarly* situated to that of the right border of the heart in I. and III."

So they prostrated themselves at the feet of the master, and departed marvelling, and disputing vehemently how they were to carry out the sage's behests, namely how in the case of IV. they might best make an angle h O n equal to the angle H O N or h O n in I. and III., in the new radiograph that they had it in their minds to make as Zadig commanded them.

Here the original MSS. becomes indecipherable, and the question remains, How did they manage to do it ?

To sum up, in radiographing the same part in different people, with the view of detecting the presence of dissimilarity by comparison of the members of the series one with another, I think it could be proved (*a*) that three things are geometrically necessary, and (*b*) that three things are radiographically expedient :—

(*a*) 1. The Axis must be directed through the same anatomical points ; one point is not sufficient.

2. The distance of the radiographic Centre from the part must be proportioned to the size of the part.

3. The planes of delineation must be parallel.

(*b*) 1. The plates or screens should be at right angles to the Axis, anatomically defined as above.

2. The distance of the plate or screen from the part should be as short as possible.

3. The resulting radiographs might with advantage be photographically enlarged (or diminished) to the same scale.

Although no doubt some apology is due from me to the mathematically inclined for a rather crude exposition of the doctrine of *similar* triangles, I trust this somewhat theoretical essay may lead to simpler methods of solving by radiographic delineation some perplexing clinical problems. Nor am I unmindful of the vexatious limitations imposed up to now on the X-ray worker by practical exigencies peculiar to the employment of the Röntgen rays in diagnosis. Yet any fine morning these technical difficulties may be overcome, and then a correct system of radiography will become of enormous importance. The risk of an incorrect system is not so much in missing excessive enlargement or displacement of parts, as in imagining abnormality to exist where it does not, or of failing to detect the lesser abnormalities. Till such a system be brought into uniform use, the medical witness would be wise to maintain in a court of law a *critical* attitude towards radiographs produced for his opinion, where he has not the means of checking the manner of their production in regard to the relative positions of Centre, Axis, Plate and Object.

BIBLIOGRAPHY.

Euclid, *Elements of Geometry*, Books V. and VI.

PUBLIC HEALTH IN BRISTOL, 1906–7.

BY

D. S. DAVIES, M.D.,

Medical Officer of Health.

THE general health returns, which were very favourable for the year 1906, have continued to be satisfactory during the first three quarters of 1907.

The recorded death-rate for the year 1906 was 14.5 per 1,000,

compared with a rate of 14.7 for the previous year, and with a rate for the seventy-six large towns of England and Wales of 15.9.

The rates for the four quarters of 1906, and for the three completed quarters of 1907, are here shown for comparison :—

	1906.	1907.
1st Quarter	16.84 ..	17.40
2nd Quarter ..	13.66 ..	12.58
3rd Quarter	13.10 ..	10.24
4th Quarter	14.79 ..	—

The birth-rate for 1906 was 25.8, a decrease on that of the previous year. This rate has shown an almost uninterrupted decline since 1882. The **annual marriage-rate** is also decreasing.

Infant Mortality.—The proportion of deaths of infants under one year to births in 1906 was 127 per 1,000, which is somewhat higher than that for the previous year (122). The highest rates were noted in Bristol Central, 173, St. Philip, 153, and the lowest in Ashley, 79. The general infantile rate is satisfactory, compared with 145 recorded in the seventy-six large towns of England and Wales, but the most crowded districts are susceptible of improvement.

The infant mortality rates for the four quarters of 1906, and for the three completed quarters of 1907, are here given for comparison :—

	1906.	1907.
1st Quarter	148 ..	118
2nd Quarter ..	93 ..	88
3rd Quarter	156 ..	99
4th Quarter	111 ..	—

The influence of a somewhat damp and cold summer and early autumn is apparent in the diminution shown in the third quarter of 1907, chiefly due to the small amount of infantile diarrhœa.

The chief epidemic diseases.—There has been no notable occurrence in regard to these diseases.

Scarlet fever, while still occurring in scattered cases, is generally of a mild type, and gives rise to little mortality.

Diphtheria, while distinctly less fatal than in the period 1900–04, still persists, and occasionally shows severe forms; but the tendency to form school outbreaks has declined, and children at susceptible ages appear to have acquired considerable immunity.

Enteric fever.—This disease only occurred in sporadic form in 1906, except in the Bristol Central District, where an outbreak centred round a shell-fish shop receiving supplies from a tidal river in South Wales. The type of case was severe, but the outbreak did not assume alarming dimensions.

A continuing outbreak at a " home " in the city is at present (November, 1907) engaging attention. For some months case after case has continued to crop up at intervals, in spite of every usual precaution. The continuance of infection has been clearly traced to milk, but the source of re-infection of this food has hitherto been non-apparent. It may possibly be due to a case of " carrier " typhoid, and careful observations are now in hand with a view to confirm or disprove this supposition.

Small-pox.—During the past few years small-pox has adopted the annual habit of paying the city a tentative spring visit. The type has continued to be very mild, leading to difficulty in tracing out contacts, and to increased chance of missed cases; but, on the other hand, the infectivity of this mild type appears to be comparatively small, and, as a fact, each outbreak has been readily repressed.

This disease, absent since June, 1905, re-appeared in January, 1906, lasting up to June, this period affording a scattered product of twenty-seven cases.[1]

The interest of the outbreak centred in its introduction and, commencing, spread in a public elementary school, a quite unique experience in Bristol. Investigation showed that three out of four children in one class in the school were unvaccinated. The obvious remedy soon stopped the spread; but the strictness of the conditions for success is shown by the necessity of having, at one time during the outbreak no less than six hundred persons under observation. This was over by the end of March.

[1] *Annual Report of Medical Officer of Health*, pp. 30–33.

A second introduction, apparently unconnected with this one, lasted from March to May, owing to two " missed " cases, but calls for no special comment.

From May, 1906, until January, 1907, no fresh introduction occurred ; in January, however, it re-appeared, and resulted in five cases, one fatal. This outbreak was blotted out by April, and no further introduction has taken place.

The summer session of Parliament was distinguished by the passing of some important Acts bearing on public health.

(1) *The Notification of Births Act*, 1907.—This is an adoptive Act, and its object is to secure notification of each birth within thirty-six hours to the medical officer of health, so that advice may be extended to the mother, where needed, as to the management and feeding of her infant. Adoption of the Act in any district is subject to the approval of the Local Government Board, who will require to be satisfied that the local authority will provide the necessary machinery, health visitors, &c., for utilising its provisions. Some opposition to the Act as it stands has been in some quarters expressed by the medical profession, who may be compelled to a violation of professional secrecy ; and in place of its adoption—at Gateshead, for example—a voluntary notification by the medical attendant has been substituted.

(2) The Education (Administrative Provisions) Act, 1907, provides, *inter alia*, that the powers and duties of a local education authority shall include the duty to provide for the medical inspection of children, immediately before, or at the time of, or as soon as possible after their admission to a public elementary school, and on such other occasions as the Board of Education directs ; and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools.

The effect of this Act will be to make universal that medical inspection of school children which has proved advantageous in the few districts of England where it has been attempted, and to bring England into line with the advance in the direction for some years made in America and upon the Continent.

The proviso that in any exercise of powers under this section the local education authority may encourage and assist the establishment or continuance of voluntary agencies, and associate with itself representatives of voluntary associations for the purpose, is evidence of the value attached by the department to the assistance which voluntary endeavour, when started in a friendly spirit, can afford to public bodies in their executive work; assistance which is particularly helpful in matters relating to the care of the young, the assistance of mothers at and after child-birth, and the teaching of domestic hygiene.

The Public Health Acts Amendment Act, 1907, contains, in Parts III., IV. and V., forty-one sections, variously amending and supplementing previous Acts in regard to sanitary provisions, infectious diseases, and common lodging houses. The Act may be applied in part, or wholly, by an order of the Local Government Board to any sanitary district.

The Public Health (Regulations as to Food) Act, 1907.—This short act of three sections implies a good deal more than its length would suggest. It is entitled "An Act to enable regulations to be made for the prevention of danger arising to public health from the importation, preparation, storage, and distribution of articles of food." The regulations will be framed by the Local Government Board under the Public Health (Ports) Act, 1896, and will materially add to the executive duties and obligations of port sanitary authorities.

The Cholera Regulations of the Local Government Board, dated September 9th, 1907, reproduce the main provisions of previous Orders, with modifications and amendments in accordance with the decisions of the Paris Convention, and giving recognition to the recent developments of knowledge as to rat infection, plague, and mosquito infection in yellow fever. The Central Department is fully alive to the necessity for preparation in advance, especially in view of the possibility of renewed activity of cholera, and the port sanitary districts are to be maintained in a proper state of efficiency.

Progress of the Medical Sciences.

MEDICINE.

Course of the fibres of taste.—With regard to the vexed question as to the course of the taste-fibres, Morriston Davies, in a very valuable paper on the "Functions of the Trigeminal Nerve," based partly on experimental evidence, and partly on the material afforded by fifty cases in which the Gasserian ganglion had been removed,[1] brings forward the following evidence. The difference of opinion is chiefly as to the connection between the chorda tympani and the brain, whether taste impulses pass by the trigeminus or by the facial or glossopharyngeal route. The best evidence dealing with the relationship of the fibres of taste and the trigeminus is derived from the examination of patients after removal of the Gasserian ganglion. The following table gives the result in cases examined more than one month after the operation :—

Name of examiner.	Total cases.	Taste unaffected.	Taste impaired.	Taste lost.
Krause	5 ..	1 ..	2 ..	2
Cushing ..	18 ..	17 ..	1 ..	–
Davies	17 ..	15 ..	1 ..	1
	40 ..	33 ..	4 ..	3

Dr. Davies considers that in face of these figures it is impossible any longer to consider the trigeminus as the normal channel through which taste-fibres reach the brain. Explanations of the occasional disturbance, either temporary or permanent, of taste after removal of the Gasserian ganglion have been attributed to (1) injury to the superficial petrosal, which connects the geniculate ganglion with the glossopharyngeal, during the operation or by subsequent formation of scar tissue ; (2) to injury to cells of geniculate ganglion (Dixon) ; or (3) to some interference with chordal (Krause) transmission, brought about by a mechanical or toxic disturbance due to degeneration of the N. lingualis (Cushing).

As to the course of the taste-fibres, the author concludes that clinically evidence has been brought forward which supports those who hold the view that the fibres pass by the pars intermedia, as well as to those who favour the path by the glossopharyngeal, but from morphological, developmental and histological observations, he inclines to the opinion that the gustatory

[1] *Brain*, 1907, xxx. 219.

impulses reaching the geniculate ganglion by the lingual and chorda tympani, pass thence to the brain in the pars intermedia.

* * * * *

Experimental atheroma.—In view of the clinical work that has been done in recent years on estimation of the blood pressure, and of the importance of elucidating the causes of atheroma and arterio-sclerosis, the results of experiments made by Dr. G. R. Rickett are of importance.[1] The animals used were rabbits, since by way of the superficial veins of the ear an easy channel for daily intravenous injections is afforded. The drugs employed were adrenalin, squill, barium chloride, tobacco and nicotine.

The experiments show that adrenalin is not the only substance that can cause atheroma in rabbits, and that the cause of the disease, if a toxin, cannot be a toxin peculiar to this substance. The author holds that a mechanical factor, rise of blood pressure, is alone responsible, and that any procedure which raises the blood pressure, whether it be physical or the administration of drugs, provided that the pressure induced be sufficient, will cause atheroma. In applying these results to human pathology, it is to be remembered that these animals have only been experimented with for a few months. In three out of four animals treated with either tobacco or nicotine the author succeeded in producing atheroma; he assumes for the failures that the individuals had a high resistance to the effect of the drug, and remarks that other observers have found it difficult to produce the disease in young animals, and also that the more weakly an animal is the more readily are changes in its vessels produced. He succeeded in producing atheroma with both barium chloride and squill; with the latter, however, the changes are not so severe and extensive as with adrenalin, tobacco, nicotine and barium, but show the same microscopical features. Adrenalin is by far the most certain agent to produce these lesions; this would be expected, if we suppose that atheroma is originated by the damage done by periods of high blood pressure, for adrenalin is by far the most potent agent in this respect.

The author thinks there is no evidence to support the views that the patchy character of the disease is due to the effect of the drug on the vasa vasorum. Further, a mechanical theory affords a reason for the affection of the large trunks only, since it is only in the proximal portion of the vascular system that the pressure rises high enough to effect so great a destruction of elastic tissue. The occurrence of small plaques of atheroma at points of bifurcation, where ascending arteries rise from the artery, is due to the high blood pressure at this early point of the course of these arteries. No changes were found in the

[1] *J. Path. and Bacteriol.*, 1907, xii. 15.

pulmonary artery, because the pulmonary system has no vasomotor nerves, and is but poorly provided with vessels.

Experiments with potassium cantharidate, chosen because it acts as an irritant but causes no rise in blood pressure, were negative, thus proving that a merely irritant effect cannot cause the disease in question. Without going into detail, it may be said that the earliest changes consist in stretching, frequent breaking and interruption of the elastic fibres, followed later by involvement of the muscle fibres in the degenerative process, and deposition of calcium salts. The nearest parallel in human pathology to the experimental disease is the calcification of the media in the peripheral vessels, and the most important conclusion to be drawn from these experiments is that high blood pressure certainly causes great damage to the arterial system.

* * * * *

Chloride deprivation in treatment of renal anasarca.—Prof. Strauss[1] says that chloride deprivation is to be used, not as some have urged for the treatment of diseases of the kidney in general, but for the prevention and treatment of certain forms of renal dropsy ; and further, that not every case of renal anasarca is necessarily an object for the systematic deprivation of chloride. It is in cases especially of acute and chronic parenchymatous nephritis that the question of chloride deprivation occurs, whilst the treatment of dropsy in contracted granular kidney falls into the same category as that of cardiac dropsy. In anasarca, due either to acute or chronic parenchymatous nephritis, this treatment is indicated. Cases of the latter in which elimination in general, and more especially that for sodium chloride, is deficient, can be recognised by two symptoms : (1) with an average intake in the food, the daily output, both per cent. and in total quantity in the urine, is extremely small ; and (2) running parallel with this deficient excretion, a progressive increase in body-weight, indicating a retention of sodium chloride in the tissues, and with it of water. Without visible anasarca a considerable quantity of water can thus be held back in the tissues. In this condition, then, and in anasarca itself, deprivation of chloride should be a part of the treatment, and is obtained by (1) regulating the intake in the food, and (2) increasing its elimination from the body by giving preparations of caffein, of which diuretin is the most effective, increasing both the total quantity of urine and also the percentage of chloride.

So also Minkowski, writing on the treatment of dropsy by regulating the intake of water and salt,[2] puts the reduction of sodium chloride intake in the first line in the treatment of renal dropsy. Limitation of fluid must be carried out with caution.

[1] *Folia Therap.*, 1907, i. 122.
[2] *Therap. d. Gegenw.*, 1907, n.f., ix. 1.

Excessive quantities of fluid are, however, certainly to be avoided, so that a diet of milk only—three litres of milk being taken daily—is a mistake, especially in the contracted kidney. One to one and a half litres of milk should be given combined with other articles of diet. It is well known that in renal dropsy, digitalis and the diuretics belonging to the group of purin bodies—caffein, diuretin, agurin, theocin—are often of great service. They bring about the elimination of a quantity of water and salt from the body without damaging the kidneys. The question cannot, however, be regarded as yet settled, for Drs. A. Bittorf and G. Jochmann, in an article on "Sodium Chloride Metabolism," [1] state that the conditions present in renal disease are very variable. If cardiac failure is present, the conditions are the same as in uncompensated heart disease. The elimination of chloride is good, and to a great degree independent of the excretion of water. By increasing the amount of salt taken in acute nephritis with œdema there was brought about an increased output of sodium chloride and water, and afterwards the same patient, when without œdema and with good excretion of water, sometimes showed a delayed excretion of chloride. In chronic parenchymatous nephritis, there is very good, seldom delayed elimination of chloride with normal output of water. In chronic interstitial nephritis there is generally good chloride excretion.

J. MICHELL CLARKE.

SURGERY.

Excision of the breast for carcinoma has been attended by better remote results since the adoption of wider removal of skin and lymphatics than was formerly the custom, but there is still much to be accomplished in combating this disease by operation. To those who have not familiarised themselves with modern methods, excision of the breast seems simple enough for anyone to undertake, but the results under these circumstances are deplorable. Several papers have recently been published dealing with this subject, and a consideration of them will show the practice of to-day and the results to be anticipated. At the Massachusetts General Hospital[2] there were 416 cases of primary operation for cancer of the breast during a period of ten years, and of these 376 were traced to a conclusive end-result at an average period of eight years after operation. Sixty-four cases were alive and well, and seven died without recurrence over three years after the operation. Counting in the operative mortality, there were 320 attempts at radical cure, 67 of which, or 20.9 per cent., were successful. Cases in which the tumour was ulcerated, or was adherent to the skin or chest wall, and cases in which the

[1] *Deutsches Arch. f. klin. Med.*, 1907, lxxxix. 485.
[2] *Surg., Gynec. and Obst.*, 1907, v. 39.

axillary glands were palpably enlarged, gave distinctly less promising results than when these conditions did not exist; and no case with palpably enlarged cancerous glands above the clavicle, and no case of cancer of both breasts, was cured. It was found that extensive operations with wide removal of skin gave the greatest freedom from local recurrence, but removal of the pectoralis minor appeared to be of slight significance. Recurrence in the scar occurred in less than half the cases. Internal recurrence was most frequent in the lungs, mediastinum, in the axillary and supra-clavicular glands, the liver, and the spine. Nineteen per cent. of those passing the three-year limit without evidence of recurrence, showed recurrence later, and four cases developed recurrence six years or more after the operation. Fifteen cases died as an immediate result of the operation, giving a mortality of 3.6 per cent. on the whole period of ten years; but the mortality was 5.1 per cent. in the first five years, and 2 per cent. in the last five years. The results which we have just summarised represent the work of twenty different surgeons, and may therefore be regarded as the probable outcome of any large number of cases. Greenough, Simmons and Barney,[1] who have collected these cases in the practice of the Massachusett's Hospital, regard a "complete operation" as one including the removal of the whole breast and axillary contents, the removal of the pectoralis major muscle, and either division or removal of the pectoralis minor. They rightly consider that the amount of skin removed with the breast is a matter of great importance. They contrast the cases in which the wound was directly closed by suture with those in which so large a skin defect was made that a plastic operation was required to close the wound. In 67 out of 160 "complete operations" a plastic operation was performed. Of this number 13 were successful, 19.4 per cent.; whereas in the 93 complete operations in which the wound was sutured directly there were only 11 successful cases, 11.7 per cent. The difference between these cases was even more marked when local recurrence was considered. Of the 67 cases with plastic operation, no local recurrence in the scar took place in 57.6 per cent., whereas of the complete operations in which the wound was sutured directly, only 44 per cent. remained free from local recurrence.

Having thus considered the results obtained at a general hospital, we may refer to some points in the methods and results of individual operators. Halsted[2] for the past two years has performed the "neck operation" (clearing out the lymphatics above the clavicle) in most cases. He omits it in hopeless cases, in most "duct cancers," and in some carcinomata of adenomatous type in which the axilla at operation is not macroscopically involved. Unless there are special contra-indications, he considers the neck operation should be performed (1) in all cases with

[1] *Loc. cit.* [2] *Ann. Surg.*, 1907, lxvi. 1.

palpable, operable, neck involvement; (2) when the apex of the surgical axilla is involved. When mid-axillary involvement is demonstrable at the operation apical implication is almost certain, and hence (3) in these cases also the neck should be typically cleared of its lymphatics, as high, at the very least, as the bifurcation of the carotid. The influence of early operations and glandular involvements is shown by the fact that he claims a cure of 85 per cent. if the axilla and neck are negative, of 31 per cent. if the axilla is positive and the neck negative, but only of 10 per cent. if both axilla and neck are positive. In considering these statistics Halsted takes the three-year limit as evidence of cure; but Jacobson[1] considers that this limit is too short to determine the end-result. This observer follows Halsted's technique except as to the removal of the supra-clavicular glands, which is only undertaken when there has been apparent invasion of the neck.

Oliver[2] considers that the most potent factor bearing upon prognosis is the character of the growth. The richly cellular, rapidly growing, soft, succulent carcinomata are much less amenable to surgical treatment, even when seen early in the course of the disease, than are the more fibrous, slowly growing, hard varieties of the disease.

Cabot[3] draws attention to the danger of recurrence from the self-inoculation of the wound with cancer cells set free during operation. The possibility of this occurring is a reason for removing breast, muscles and axillary contents in one mass, and for keeping the dissection outside of the lymphatic distribution as far as possible. When a cancer has been cut into for purpose of diagnosis, the opening should be tightly closed before further operation is undertaken, and every precaution should be taken by changing instruments, &c., to avoid inoculation. Where the operation has gone close to the cancer, as through suspicious tissue, Cabot thinks that the application of tincture of iodine to the surface of the wound prevents a quick recurrence when such appears otherwise inevitable. This observer, in common with others, makes it a practice to give each patient a course of X-ray treatment immediately after the operation, with the idea of destroying any bits of cancer that may have escaped removal. For this the exposures to the X-rays are made twice a week for three or four months after operation.

One of the most enthusiastic supporters of clearing the supra-clavicular region as a routine measure is Pilcher,[4] who finds that in ten of the cases in which enlarged supra-clavicular nodes were discovered and removed, three remained free from recurrence. He considers that the point of suspicion is the triangle at the junction of the subclavian and internal jugular veins, where the nodes are found which guard the entrance to the

[1] *Ibid.*, p. 43. [2] *Ibid.*, p. 51. [3] *Ibid.*, p. 57
[4] *Ibid.*, p. 67.

mediastinal lymphatic paths, and to which run not only the lymphatics, which pass up under the clavicle from the axilla, but also an inconstant but not infrequent set of ducts, which run up in the front of the thorax from the mammary region to the base of the neck, down into which they dip after running over the inner end of the clavicle. The denseness of the deep fascia at the base of the neck, together with the overlying tissue, make it difficult to detect infected nodes by palpation until they have attained some size; but when palpable or visible, the presumption is that the infection is of long standing and of considerable extent, and therefore justifies the gravest prognosis. Pilcher thinks that even then the infection may still be confined to the accessible supra-clavicular group, so that their extirpation may ensure a complete removal of all carcinoma-bearing tissue; but of more importance is the practical recognition of the probability of the presence of infection of the supra-clavicular nodes in every case of breast carcinoma of much duration or extent, and the incorporation into the general plan of operative attack, in all such cases, of an incision into the base of the neck and a systematic removal of all possibly infected tissue, even though there may be no distinct evidence to sight or touch before such incision of the presence of the infection.

From a careful study of fifty cases, Dennis[1] states that after an apparent cure for eighteen years after operation there may yet be a return of the disease in some other organ. In the cases in which no return has been observed, the operation was performed almost without exception within six months of the incipiency of the disease, thus showing the importance of early operation. He, however, points out the fact that in some cases in which the outlook is most unfavourable, as manifested by extensive ulceration, hemorrhage and wide-spread axillary involvement the final results have been entirely satisfactory.

Enough has been said to show that the operation for removal of the breast for carcinoma should not be entered upon without an intimate knowledge of modern principles; and one may call to mind the statement of Ransohoff[2] that "almost everyone who does surgery at all feels himself competent to do a breast operation, which to do properly, in my judgment, is one of the most difficult feats of surgery." From the extracts which we have quoted it can be seen that there is complete unanimity as regards the removal of a wide area of skin, the pectoralis major and the axillary lymphatics. The chief point of difference is as regards the desirability of removing the lymphatics above the clavicle as a routine measure. Some observers state that they always consider this necessary, but it must be remembered that this procedure increases the mortality of the operation. The wiser course perhaps is to be guided by the actual conditions

[1] *Surg., Gynec. and Obst.*, 1907, v. 57. [2] *Ann. Surg.*, 1907, xlvi. 73.

found at the time of operation, and to remove the lymphatics above the clavicle if they are obviously affected, or if the axillary group of glands is affected so high up as to suggest the probability of the infection of the supra-clavicular lymphatics.

As Oliver[1] truly says, the operative treatment of cancer of the breast is far from an ideal method, even with the extensive removals practised at the present time; but the hope for the future lies in better prophylaxis, and in a better knowledge of the nature of the disease.

JAMES SWAIN.

PSYCHIATRY.

Bacterial origin of general paresis.—Few investigations into the pathology of insanity have been followed with more interest than those of Ford Robertson and McRae[2], dealing with a bacterial origin for general paralysis of the insane. These authors assert that a diphtheroid bacillus—perhaps an attenuated form of Klebs-Löffler bacillus, but more likely a distinct form—is the specific organism in general paresis and tabes. The invasion of this is specially predisposed to by syphilis, chronic alcoholic excess, and over-nitrogenous ingestion. Large numbers of a diphtheroid bacillus are said to have been found in the respiratory, alimentary and genito-urinary tracts of advancing cases of general paresis, the principal infecting sites being considered to be the buccal and naso-pharyngeal mucosæ. From these foci toxines are generated which occasion the facial tremors and paresis, and by perineural conduction some of the cortical lesions also. Stress is laid on the actual tissue-invasion by these organisms in general paresis as distinct from their finding on the surfaces of mucosæ, which may happen in other cases than general paresis or in sane individuals. The authors describe especially two forms of diphtheroid organism, one often a thread-like bacillus which they term B. paralyticus longus, commonly the only micro-organism found in the catarrhal pneumonic foci that occur, in most of the cases of general paresis dying during congestive seizures. A second form of diphtheroid bacillus, which resembles the B. xerosis in broth reaction, but differs morphologically in showing prominent metachromatic granules, is not thread-like, and is thinner and shorter than the other; this they call B. paralyticus brevis. Both forms are often virulent to mice and rats, but there is a variance in their relative toxicity. The B. paralyticus brevis has been detected in fresh blood in one case of general paresis, but is said to be taken up so rapidly by the polymorphonuclear leucocytes, that complete digestion occurs in two to three hours. This bacteriolytic power of the leucocytes in general paresis, the authors think, shows a higher index than in the normal individual, and it is owing to this, in

[1] *Loc. cit.* [2] *J. Mant. Sc.*, 1907, liii. 590.

the greater number of cases, that it is not practicable by present methods to procure cultures during life. They, however, made pure growths of a diphtheroid bacillus from fresh blood in four cases and from cerebro-spinal fluid in two. Disintegrating bacilli were found in the blood, cerebro-spinal fluid, urine, vessel-walls and pia-arachnoid of general paresis in many cases. Their experiments on rats gave varying results according to the inoculation with the long or short form of the diphtheroid, and the isolation of these from dead or living tissues. Those rats which died with paralytic symptoms presented changes in their cerebral tissues in the form of periarteritis, neuroglia-proliferation and nerve-cell lesions. Robertson and McRae believe there are two varieties of general paresis similar and yet essentially distinct, occasioned by one or other of these bacilli, or perhaps by yet another form, or forms, of diphtheroid bacilli, gaining entrance to the lymph stream and blood. They lay stress on the benefit found in a case of tabetic crises, in whom injections were at first made of definite doses of a killed culture of the B. paralyticus brevis (isolated from the patient's urine), and subsequently of a bactericidal serum. The first injections were followed by the return of the crises, which seemed to be immediately dependent on them. The aim in these researches being a therapeutical one, experiments were commenced with an anti-bacterial serum, prepared by inoculating sheep with dead cultures of the B. paralyticus longus. The immunised serum was given either by hypodermic injection, by mouth, nose, or in one case per rectum. Previous inoculations with vaccines, prepared by suspension of the bacilli in sterile saline solution, gave encouraging results. Thirty-four cases of general paresis were treated with anti-sera, and in all what was considered a diagnostic reaction for general paresis and tabes obtained. This consisted in a rise of temperature to 100° F. or more (or 99° F. or more when given by mouth), occurring within twelve and over within twenty-four hours in the case of injections. Besides this there were flushings, vertigo, defect of vision, confusion, increased inco-ordination, &c. Control experiments were made in other forms of insanity, and in these no specific reaction was observed after mouth administration, and any rise of temperature after injection was explicable by other factors. (This qualification hardly appears satisfactory to us.) Leucocytic increase after the anti-sera was found in most cases of these controls, but there was no material change in the paretics. On the other hand, normal serum and polyvalent anti-streptococcal sera were injected into general paretics without reaction. The authors claim that most of their cases of general paresis treated with the sera undergo more or less improvement; thus, of 12 cases treated by themselves all improved; of 9 cases treated by others 6 improved, 3 did not. This leaves 13 cases unaccounted for.

George Robertson, of Stirling, has carried on investigations with the same objective, but with yet more elaborate precautions and technique. In thirteen general paretics he found present a constant diphtheroid organism in seven, and he obtained cultures from the blood in seven cases and from cerebro-spinal fluid in four cases.

Thus, not only were cultures more frequently obtained than by Ford Robertson and McRae, but the organism was studied in more than twenty cultural media. Moreover, the bacillus described by the latter authors had not been observed by him in any case, and the organism which he had found differed from it in many respects. It also had been found in other forms of insanity in acute cases. G. Robertson thinks it possible that a large group of diphtheroid bacilli may exist which produce substances toxic to the nervous system, and which, if not specific in producing general paresis, may be contributory.

Orr and Rows hold that infection in general paresis, bacterial or toxic, proceeds along the lymph paths rather than the blood stream. Candler, working at the Claybury laboratory, quotes various bacteriologists as showing that diphtheroid organisms, in the first place, are met with all over the body in cases free from insanity; further, that organisms similar to those described by Ford Robertson are met with in two localities, especially mentioned by this author, in a large number of sane persons; that diphtheroid organisms are, as a whole, met with in no greater frequency in general paretics than in other forms of insanity, and cannot be isolated more readily from the one than from the other.

Candler has examined the blood of twenty-four general paretics during life — on forty-one occasions in all, and in no single instance has he seen or obtained cultures of an undoubted diphtheroid bacillus. Also, in nine cases in which he has examined the cerebro-spinal fluid, he has neither seen diphtheroids nor obtained cultures. He comments on the dangers of contamination during culture making, the doubtful evidence of stained films and sections unless confirmed by cultures, and the errors caused by terminal and *post-mortem* invasions

* * * * *

Lewis Bruce has found **hyperleucocytosis** in what he terms **bacterial toxic insanities,** and also, variably, in **general paresis.** This increase, together with certain temperature rises—regular, recurrent or irregular in type according to the stage of the disease —with disturbances of alimentary tract, certain serum agglutinations, with signs of a general toxic invasion and lowered leucocytic resistance, leads him to consider general paresis as a disease of bacterial origin. He has found, in three or four cases, serum taken from general paretics in a stage of remission to arrest the

progress of early paretics. One patient he immunised to the Ford Robertson diphtheroid, and completely stayed the course of the disease; death occurred ere long from phthisis. Bruce recognises, however, that severe attacks of erysipelas, carbuncle, &c., may also indefinitely cause an arrest.

It will be seen that so far there is not much unanimity amongst different observers as to the existence or determination of the bacterial organism in general paresis. Nevertheless, undoubted progress is being made in an investigation of immense difficulty, and the results of Ford Robertson's serum treatment cannot but be viewed with hopeful bias. That such advance has been made since 1894, when an article by Goodall and Bullen reviewed the then meagre literature, and to some extent forecast the present attitude towards general paresis, is productive of a reasonable expectation that the further researches of Robertson and others may end in a solution of a most involved question.

* * * * *

Pomeroy[1] has contributed very interesting and important evidence as to the value of **lumbar puncture in the diagnosis of syphilis, general paralysis** and some other conditions. The presence or absence of leucocytic and albumin increase, separate or conjoined, in the cerebro-spinal fluid appears to give much help, under known conditions, in the determination of these diseases. The number of experiments collected and personally made by Pomeroy are sufficiently harmonious in result to make his conclusions of considerable weight. Leucocytic increase seems almost the rule in secondary syphilis; in the tertiary form not so surely, unless the nervous system be involved. The amount of increase is, however, seldom so great in syphilis as in general paresis, nor is the albumin content, even if at all present, in the former nearly so abundant as in the latter. The estimation of albumin is considered a most important matter in deciding on the presence of general paresis, and is in many cases the only feature that will differentiate it from syphilis. Albumin increase is, however, not so constant as hyperleucocytosis, nor is it always parallel with it. The whole clinical picture of a doubtful case must, of course, be carefully studied; but in such, where the poise of opinion is between brain syphilis and general paresis, a relatively small cell increase and low albumin content may justify decision for the former. On the other hand, a negative finding of leucocytic and albumin increase is of more value in deciding against syphilis and general paresis than a positive one is for them.

Hyperleucocytosis in general paresis has been observed in nearly all of 500 cases, lumbar punctures giving negative results of only 2.6 per cent., after due allowances have been made. Pomeroy himself in thirty clear cases of general paresis found

[1] *J. Nerv. & Ment. Dis.*, 1907, xxxiv. 312.

positive increase in cell and albumin in every case. (In about half of these he believes syphilis to have been present.) His opinion is that these conjoined positives constitute one of the earliest and most constant signs of general paresis, even appearing before amnesic, eye or ataxic symptoms.

Farrar regards the hyperleucocytosis as the outcome of a subacute or chronic cerebro-spinal periarteritis or pia-arachnitis. Further experiments have been made to ascertain the value of this cell and albumin content in the differentiation of chronic alcoholic psychoses and other central organic brain troubles. Nissl collected and examined thirty cases of presumed chronic alcoholic psychoses; in twenty-three of these the finding was negative; the others proved to be either actual or probable paretics or old syphilitics. Other observers have recorded similar results. • The finding in epilepsies is usually negative, except where there is a syphilitic basis; the same is said of brain tumour, arterio-sclerotic insanity, Korsakoff's disease, central hemorrhages, dementia precox, and paranoidal excitement. In short, a constant absence of hyperleucocytosis practically negatives brain syphilis and para-syphilitic conditions. On the other hand, the differentiation of brain syphilis and general paresis will have to rest on the relative amount of hyperleucocytosis and albumin association.

Pomeroy insists on the necessity of several punctures before decision be made. The dangers of the operation appear minimal if not more than 3 to 5 c.c. of fluid are withdrawn; it is, however, counterindicated in cerebellar tumour. The patient should not be punctured unless put to bed; in this case mild headache, nausea or vomiting seem the only sequelæ.

* * * * *

Change in type of general paresis.—Clark and Attwood[1] have collected 3,000 records of general paresis, to investigate the question of a change in its type. They assert that the oft-stated opinion that there is a relative increase of the simple demented and melancholic type to the grandiose in late years is mainly due to the inclusion of cases of dementia, depression, and cerebral syphilis, formerly wrongly classified, but now correctly grouped under general paresis. These authors consider euphoria still to be the characteristic psychical symptom, and to be found in 70 per cent. of the cases, although less extravagant and grotesque. Allowing for the more rigid delimitation of pseudo-general paretics, the writer of this periscope has seen no reason to alter the conclusions expressed by him in 1893 on this variation in type—at any rate, so far as England is concerned. He still asserts that mania is relatively less frequent, less pure and less sthenic; that primary dementia is more common; convulsive

[1] *J. Nerv. & Ment. Dis.*, 1907, xxxv. 553.

and paretic seizures less frequent, less violent and fatal. The variations are much influenced by locality, and the strenuous life and fresh population of the American cities quite accounts for a maintenance of the former characteristic type there. It is likely, on the other hand, that any gradual process of degeneration taking place in a nation is reflected in the type of its insane as well as its sane population.

F. St. John Bullen.

Reviews of Books.

Aids to Medical Diagnosis. By Arthur Whiting, M.D. Pp. ix., 152. London: Baillière, Tindall & Cox. 1907.

This little book is intended for those who already possess a knowledge of systematic medicine. The plan adopted has been to start with the prominent symptoms in any given case, and then to separate the members of each group as clinical entities. The book therefore is essentially clinical in its aim, and the writer has succeeded in compressing a large amount of useful information into a small compass.

Aneurysm of the Abdominal Aorta. By F. P. Nunneley, M.D., M.A. Pp. vii., 121. London: Baillière, Tindall & Cox. 1906.

The author has published this monograph, originally written as a dissertation for the M.D., partly at any rate at Professor Osler's suggestion. It consists of a careful analysis of thirty-two cases, the clinical and pathological notes of which were found in the records of St. George's Hospital; and though little is unearthed that has not been taught before, yet the book is of much value in several ways. It is in the first place a check on the statistical articles already published by Browne, Bryant and others. Again, several interesting ætiological data are brought into prominence, notably the rarity of the condition in women and the comparatively early age at which its victims are affected (between 25 and 45 in 75 per cent.). Only thirteen of the cases were correctly diagnosed during life, and some of Nunneley's observations on diagnosis are therefore of peculiar interest; in particular there is his remark that radiography is only of value in confirming a positive diagnosis. Perhaps the most important section is that dealing with treatment. It is naturally pessimistic in tone, perhaps unduly so in the paragraph dealing with

potassium iodide. Lancereaux's gelatin treatment is also described as unsatisfactory. The results of surgical treatment, bad as they have been hitherto, yet leave room for hope as to the future. Apart from its intrinsic worth, this monograph is an eloquent testimony to the value of honestly-kept records, whether clinical or pathological; and its author is to be congratulated from all points of view upon this solid addition to our knowledge of an interesting and important subject.

Manual of Anatomy. By A. M. BUCHANAN, M.A., M.D. Vol. II. Pp. xv., 575—1539. London: Baillière, Tindall & Cox. 1907.

It is impossible to review in any detail a book of over 1,500 closely printed pages in the space at our disposal. This volume deals with the abdomen, head and neck, and thorax, and is published in the same style and in series with Rose and Carless's *Surgery*. It forms a much less cumbrous book than any of the single-volume anatomies, and is printed clearly and illustrated well. The regional method of description is adopted, which, together with some directions for dissection, makes the book a manual for the dissecting-room as well as a systematic treatise. There can be no doubt that the whole work being by the same hand is an advantage far greater than any obtained by the system of multiple authors in such a subject as anatomy. The letterpress and descriptions are extremely clear and accurate; but it is to be regretted that not only are the well-known personal names, such as Scarpa's or Cotle's fascia, retained, but many others which are new to English students are introduced, such as Houston's muscle for the anterior part of the bulbo-cavernosus, and the muscle of Guthrie for the constrictor urethræ. This involves an unnecessary effort of memory in a subject which already taxes that faculty to the utmost.

The manner in which the embryology and histology of each organ are described after the gross anatomy is completed is a most excellent plan, and one which almost compels the student's attention, whereas separate chapters of these subjects are apt to be overlooked or forgotten. The illustrations of the abdomen, thorax, and nervous system are very clear, and just fulfil the purpose for which they are intended. But many of the pictures of the head and neck are far too small and complicated, and would necessitate a reference to larger text-books or atlases. Taken as a whole, the book is a fresh and clear exposition of an intricate subject, and it will probably be welcomed for its conciseness and become as popular among students as the other members of the same series of manuals.

Inflammation. By J. GEORGE ADAMI, M.A., M.D., F.R.C.S London: Macmillan & Co. 1907.

It was a happy thought which led Professor Adami to issue this reprint from his article on "Inflammation" in Allbutt's *System of Medicine*. Admirable as the original contribution was, the issue gains by the inclusion of the more recent work on the subject. Would that the book could find its way to the desk of every writer upon medical matters, and form a part of the outfit of all who carry out the practical applications of medicine and surgery!

"It cannot be too strongly emphasised," says Adami, "that a knowledge of the inflammatory process is the foundation of all pathology; and if our pathology is not to be a mere catalogue of names of morbid states, but an endeavour to bring into order and relationship the phenomena of disease, then the study of the inflammatory process is the natural starting-point for a right understanding of pathology and what it can teach us.

"It is deplorable that many surgeons enunciate a pathology at variance with that of the physicians; it is a matter for regret that general pathology and bacteriology are so rarely associated in one worker; but it must be acknowledged that no one man can hope to be equally familiar with the recent advances in neuropathology, hæmatology, immunity, infection, &c."

Hence the status of this book is at once defined. It marshals the facts already known; it states the deductions permissible, and points the way to further work; it tends to unify the terminology and the conception of inflammation; and as such, it should have the careful study of every student of medicine and surgery.

We are not going too far when we point out that in no other book is the subject so concisely and clearly set forth, and when we indicate that our lack of knowledge of its contents must stamp us as too little caring for the health of our patients; for Adami has not contented himself with the enunciation of principles, but has troubled to apply these to therapeutical details.

The Bacteriological Examination of Water Supplies. By WM. G. SAVAGE, M.D., D.P.H. Pp. xvi., 297. London: H. K. Lewis. 1906.

The objects of this class of book are two: first, to provide the reader with an up-to-date compilation of methods and of the facts the application of those methods have elicited; and secondly, to present the views of the author and of other observers upon the deductions which may properly be drawn from the results obtained in dealing with new material. In the present instance, as may be anticipated from Dr. Savage's wide experience of bacteriological methods, the first object is very completely

attained, and the practical worker will be very grateful for the collection, in so small a compass, of all really useful existing processes for the detection and enumeration of those micro-organisms, the presence of which in potable water is a more or less conclusive indication of pollution. This portion of the book would be improved by avoidance of a good deal of repetition, which renders reference difficult, and by a more systematic display of the essential characteristics of allied species.

With the discussion, however, of the precise significance of the presence or absence of certain forms, matter of much more controversial type is introduced.

The author's attitude on this question is not a doubtful one; in parliamentary parlance he is a "whole hogger," as witness the claim that "it—*i.e.* bacteriological examination—is taking its rightful place as the most valuable of all available methods by which to judge the purity of a water supply," and the declaration that "the B. coli estimation is the essential enumeration upon which to judge the purity of waters." Do the facts justify quite so emphatic a statement?

Whilst characterising as baseless the opinion that B. coli is ubiquitous, the writer adduces proof that it is present in the excreta of practically all vertebrates, and concludes that "obviously, with such an extensive natural habitat, this organism must needs be extensively distributed." Evidence of this is afforded by the demonstration of B. coli "in as little as 2 c.c. of upland surface waters, even from sources of undoubted purity, and away from all human or sewage pollution," and again by Dr. Houston in the water of remote Highland lochs, in which instances its presence is explained by the intervention in the one case of sheep, and in the other of trout and other "lower animals;" an explanation that would seem to suggest that the detection of B. coli must be accompanied by an inspection of the locality before any definite conclusion can be arrived at.

It appears to be part of the case of the advocates of one kind of water examination to depreciate all other methods, and Dr. Savage does not fail to make a determined attack on chemical processes, adducing the Bridgend epidemic as a case in point. But the bearing which the source of the water has upon the selection of the appropriate method of analysis is hardly sufficiently recognised. It is, no doubt, perfectly true that a much smaller admixture of sewage with water can be recognised by bacterial than by chemical analysis, but it does not follow that the former must invariably be the best guide to the recognition of "impurity and hazard" under the conditions of natural water supplies.

When the sewage is directly introduced into and uniformly mixed with the water, and conveyed to the consumer along a capacious channel, whether superficial or subterranean, bacterial

examination is, beyond doubt, the most useful aid to topographical inspection ; but when the polluted water undergoes more or less perfect purification by subsoil filtration, the arrest of the micro-organisms is very capricious and uncertain, depending on the subsoil conditions of the moment, and these do not affect the presence of the perfectly characteristic soluble matters on which the chemical analysis depends. In such cases bacteriological enumeration may, and often does, afford no glimpse of the warning of danger which chemical analysis discloses with certainty.

On the whole, it may be said that Dr. Savage offers no good reason for abandoning the very generally accepted and safe position that all available means should be used simultaneously in forming an opinion on so vital a matter as the safety of a water supply, but furnishes one of the best and most useful guides to the intelligent handling of the undoubtedly important instrument so ably advocated in the work under review.

Elements of Physics for Medical Students. By FREDERIC J. M. PAGE, B.Sc., F.I.C. Pp. xvi., 288. London : Cassell and Company, Limited. 1907.

The author describes this volume as a text-book which, in conjunction with the *Manual of Chemistry* by Luff and Page, recently noticed in our columns, serves to cover all the chemistry and physics—both theoretical and practical—required by the Conjoint Board and the Society of Apothecaries. In reality it is a well-illustrated syllabus, and excellently adapted to the needs of the teacher, and just sufficient to refresh the mind of the apt and well-taught student. Without simultaneous expansion, by precept and practical demonstration, it would be unintelligible to the beginner in the science of physics. Of this no doubt the author is well aware, but the claim to be a text-book is scarcely justified. On reading the book, one is impressed with the nakedness of our school education of the present day, which sends boys into the study of medicine ignorant of the simple principles of physics which this syllabus includes, and makes it necessary to spare some of the all too short five years' curriculum in teaching such rudiments of knowledge (we forbear to designate it as a special branch of learning) as can readily be grasped by any boy of thirteen not deficient.

It is incredible that a youth can register as a student of medicine ignorant of the facts contained in this superficial survey, which after all includes nothing but a few of those generalisations based on observation which pass under the name of laws, *e.g.* Boyle's Law, Avogadro's, Gay Lussac's, Ohm's, and the like. Still, we must take our author's word for it, this kindergarten standard is the one required by our chief examining

boards. From this point of view, it must be admitted that most of the statements in the book are accurate, for to have misquoted the "laws of reflection" would be scarcely possible, and the whole work is little more than a series of such quotations. In many places brevity has proved the handmaiden of obscurity, above all in the chapter where it was least excusable, that on "Light." The explanation of the *diopter* is an example of a sentence so compressed as to defy unravelling; one must merely begin afresh and make a new statement in order to be intelligible to the unlearned.

There is also a poor little sentence crying in the wilderness, saying, "Concave lenses would be—2 D, etc." Disowned by the context on either side, it is difficult to fill up the hiatus of that "&c." Myopia is undoubtedly described misleadingly, being attributed entirely to defects of the lens when no theory of causation need have been introduced.

Acoustics merely left us wondering—thirteen and a half pages wasted! Here even the supposition that the volume might prove useful as a syllabus in the hands of the teacher failed; but we began to appreciate why the art of auscultation and percussion is so mysterious to the average student, and that to try to build up a superstructure of knowledge on a foundation is a task foredoomed to failure.

As a mere outline of Mr. Page's course of instruction we say no ill of it, but as a student's hand-book it is not worthy of consideration.

The British Pharmaceutical Codex: An Imperial Dispensatory. Pp. x., 1,422. London: The Pharmaceutical Society. 1907.

The second title of this work has been placed first as it most aptly sums up its function.

The word Imperial may well be used, for the *Codex* includes monographs not only on the drugs now official in the B.P., but also those used in our colonies and dependencies the world over. Thus while, of course, Calumba and Chirata will be found in alphabetical order, so also appear Coscinium and Andrographis for the benefit of the practitioner in India and the Malay Archipelago. The book is issued by the authority of the Pharmaceutical Society of Great Britain, and is the work, during the last three years, of a committee including the leading pharmacists of Great Britain, while Dr. W. E. Dixon, the Professor of Pharmacology at King's College, Oxford, has arranged the concise notes on the Physiological Action and on Prescribing.

The book is intended to meet three great wants not met by the British Pharmacopœia.

First of all it includes a large number of drugs and preparations which, while in every-day use, have not yet been considered worthy of a place in the B.P. A national pharmacopœia is almost necessarily conservative ; this dispensatory is liberal to a degree in its admission of new — relatively new — drugs and preparations. Examples of new drugs included are cacodylic, formic and glycerophosphoric acids, salts of these acids, and preparations made from them. In this category adrenine and three liquors prepared from it will certainly attract notice, in view of the widespread use of preparations of the adrenal glands, and the difficulty of knowing what is the best preparation to use. Emulsio chloroformi will appeal to the medico who does his own dispensing, by economising his use of alcohol for making spirit of chloroform. Emulsio magnesiæ, which will be better known by its synonym of lac magnesiæ, is wanted every day as an antacid, and also as a mouth wash. The old concentrated infusions—strength 1–7—we find here, and will quite obviate the use of the rather clumsy concentrated liquors of the B.P. Solutio saponis ætherea will enable the member of a hospital staff to obtain the same ether soap for his bag that he uses at the hospital.

The second innovation made by the *Codex* is that of introducing absolutely new classes of preparations, characteristic of elegant pharmacy, and also of general medical and surgical interest. Balnea, gelatin capsules, carbasus (gauze) plain and medicated, will enable the surgeon to order, and the pharmacist to supply, articles of known and standard quality ; lints, elixirs which will obviate the resort to American dispensatories for elegance of compounding ; gargles, gelatines, guttæ, insufflationes, linctus, misturæ, nebulæ, parogens, tabellæ, tablettæ, will, it is safe to prophesy, go far towards rendering uniform the hospital pharmacopœias of the future, in which it will be possible to include mist. gentian acid, B.P.C., the due inclusion of the last three letters indicating the source of the formula.

The third function which this work is destined to achieve may in many respects, and possibly from the standpoint of the prescriber in all respects, be the most important. Up to the present every post encumbers the prescriber's table, and later his waste-paper basket, with more or less plausibly-worded advertisements of " new drugs," mostly chemicals of the organic type. In this flood of patented nostrums it is almost impossible to separate good from bad, and even when conviction of the value of a drug or its preparation is reached, one is confronted with the necessity of prescribing a patent article more or less " secret " in its nature. Add to this that many drugs of this nature—practically identical in composition—appear under a number of different patent names, and the unsatisfactory position of the prescriber is emphasised. For example, hexamethylenetetramine may be

prescribed as aminoform, ammonio-formaldehyde, ammonaldehyde, cystamine, cystogen, formin, metramine, urisol, uritone, urotropine, and vesalvine (one of these names at least being of Bristol origin). In cases such as this the compilers have coined a name for the drug—formamine in this case—indicated its formula and characteristics, and inserted at the end of the monograph a list of patent names under which it is known. Further examples are acetannin, tannigen, methyl ditannin, tannoform, sodii anilarsenas, atoxyl, &c., &c. The gain to prescribers in ordering such drugs under their *Codex* names will be threefold: first, they will be prescribing a drug of whose nature and composition they are aware, they will discourage the introduction and use of quack nostrums and secret remedies, and they will in many cases place remedies within the reach of patients who could not afford to pay the fancy prices at which many fancy patent drugs are sold.

The Prevention of Senility and a Sanitary Outlook. By Sir JAMES CRICHTON-BROWNE, M.D., LL.D., F.R.S. Pp. 141. London: Macmillan and Co. Limited. 1905.

This little book contains two addresses, one delivered before the Preventive Medicine Section of the London Congress of the Royal Institute of Public Health, the other at a Conference of the Sanitary Inspectors' Association. Both are pleasant reading, and are written in the light, picturesque style characteristic of the author. Without venturing to analyse the factors which together make the charm of this style, one can at once indicate two, namely the gift of humour and the judicious use of good metaphors. As an example of the latter, notice one on page 27. In speaking of the wear and tear of certain occupations, he instances a Sheffield penknife maker, who delivers 28,000 accurate strokes with his hammer daily, each stroke requiring a discharge from the nerve cells of the arm centre. "Little wonder," he says, "that these cells, firing 28,000 rounds a day, should sometimes be overheated and kick, or should generally suffer erosion."

As might be expected, Sir Crichton-Browne has no specific for the prevention or postponement of old age. He does not believe in Metchnikoff's views of the rôle of phagocytes and the bacterial flora of the large intestine in delaying or hastening senility; neither does he think Dr. Allchin's prophecies are sound. "Dr. Allchin," he writes, "has brought forth the *elixir vitæ* from limbo, and tricked her out in the fashionable scientific costume of the hour." Hustling, overeating, insufficient exercise, and luxurious living generally he considers the main enemies of long life.

The second of these lectures, on "The Sanitary Outlook,"

consists of carefully-studied statistics, criticisms on Dr. Maudsley's and Dr. William Hall's views on consumption and the feeding of children, a comparison of the death-rate in urban and rural districts, &c., and the general conclusion that the growth of healthy suburbs by improved means of travelling, and the encouragement of pleasant home life, are the most likely means of improving the future sanitary condition of England.

Studies in the Bacteriology and Etiology of Oriental Plague. By E. KLEIN, M.D., F.R.S. Pp. xv., 301. London: Macmillan and Co. 1906.—Those who were privileged to hear Dr. Klein's address to the Bristol Medico-Chirurgical Society on "Plague," in 1901, will gladly renew acquaintance with the subject in this volume, in which the whole subject of the etiology and intimate nature of plague is critically discussed. The bacteriology of the disease is first dealt with, including a description of the microbes which simulate in one or another respect the B. Pestis, and the methods and tests relied upon for discrimination. The important epidemiological relationships of plague in the rat to plague in man receive adequate notice; and it is to be noted that the author concludes that "there is a distinct failure of evidence that transmission of the disease is effected by fleas or lice from an infected animal to a healthy one." On this very important point Dr. Klein's opinion is not in accord with the results obtained in the remarkable and complete experiments recorded in the "Reports on Plague Investigations in India," issued by the Advisory Committee appointed by the Secretary of State for India, the Royal Society, and the Lister Institute, and printed in the September number of the *Journal of Hygiene*, 1906, which deserves the careful attention of all students of the subject.

Tumours, Innocent and Malignant. By J. BLAND SUTTON, F.R.C.S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital, &c. Fourth Edition. London: Cassell and Co. 1907.—This useful handbook still continues its successful career. Appealing alike to the surgeon and practitioner, it contains a large number of illustrations, which more or less convey the idea of the structures described. A considerable portion of the book is devoted to dental problems. The section on chorion-epithelioma has been brought up to date. It is evident that much of the text has been rewritten. Perhaps in the next edition it will be possible to harmonise the terminology of the surgeon with that of the academic pathologist.

Opuscula selecta Neerlandicorum de arte Medica. Pp. xii., 325. Amsterdam: F. van Rossen. 1907.—This volume, published by a committee to commemorate the Jubilee of the "Nederlandsch Tijdschrift voor Geneeskunde," contains reprints of four classical discourses, by Erasmus, by Boerhaave, by Gaubius, and

the researches of Van Leeuwenhoek and Swammerdam. That of Desiderius Erasmus, dated Louvain, 13th March, 1518, is in praise of the art of Medicine. It is written in Latin, but an English translation faces each page. Leeuwenhoek's essay is in the form of a letter to the Royal Society of London, giving his views on the circulation of the blood, in 1688, clearly setting forth that the arteries and veins are continued blood-vessels. The other essays, written in Dutch, have French or German translations.

Auscultation and Percussion. By SAMUEL GEE, M.D. Fifth Edition. Pp. xviii., 325. London: Smith, Elder & Co. 1906. —The fifth edition of this classical work needs no further recommendation than to refer to the popularity which the previous editions have acquired. In the preface the author makes mention of skiagraphy in physical examination of the chest, and gives his reasons for not including the subject in this latest edition of his book, while at the same time he acknowledges the great value of the method. The alterations and additions to the text are very few, for indeed there was but little for Dr. Gee to modify or add to in the earlier editions of a work which will always remain to us as a model of literary style, combined with scientific accuracy and historical erudition. "Sunt clari hodieque et qui olim nominabuntur."

First Lines in Midwifery. By G. ERNEST HERMAN, M.B. Pp. xii., 222. New Edition. London: Cassell & Co., Limited. 1907.—The difficulty in a small book which deals with a large subject is to get the proper balance in what is necessarily an abstract. This is most successfully accomplished in this case, and, considering its small size, a remarkable résumé has been compiled. The illustrations are very numerous, and carefully chosen, and the text is written in a clear and simple style that is easy to follow. It would be well to recommend a doll as well as a skull for learning mechanisms with, especially to beginners. One wonders also why no mention is made of gentle massage of the breasts in helping to empty them for "caking" or "painful fulness," as it is such a useful adjunct. The book has been well known and appreciated for many years, and has already been reprinted and revised many times. The addition of a chapter on the requirements of the Central Midwives Board is a distinct advantage.

Anæsthetics and their Administration. By FREDERIC W. HEWITT, M.V.O., M.A., M.D. Third Edition. Pp. xxxiii., 627. London: Macmillan & Co., Limited. 1907.—The third edition of Dr. Hewitt's well-known work on *Anæsthetics and their Administration*, comes at a very opportune moment, seeing how much work has recently been done on the subject; and, as might be expected, this volume contains much new matter, dealing with such questions as ethyl chloride, surgical shock, acid intoxication, and the exact dosage of chloroform, and the author's views on

these points are as welcome as they are fair and clear. We regret, however, to note the omission of an account of local and of spinal analgesia. In the chapter devoted to the "Physiology of Anæsthesia," special reference is made to the interesting researches of Hamilton Wright on the inimical effects of ether and chloroform upon the nerve cells of the brain and spinal cord; and a note has been made of the work of Kemp, Maunsell, and S. and H. Pringle, which shows that prolonged ether administration tends to seriously affect the organism. Under "Physiology of Chloroform Anæsthesia" has been added a concise description of the exact percentage apparatus of Waller, Dubois, and Collingwood; also a résumé of the researches by Embley and others, showing the depressing effect of lowered blood pressure upon the function of respiration; and the author points out that, according to Snow, primary cardiac paralysis from chloroform poisoning only occurs with high percentages of the drug, and that in the absence of such concentration the heart only fails secondarily to respiratory depression. The whole of Part II., dealing with the preparation of the patient, the selection of the anæsthetic, and the method and circumstances of administration has been very carefully rewritten, and much practical matter has been added. On page 375 the author discusses the Vernon Harcourt apparatus. On the whole, the volume combines the completeness of a reference book with the conciseness of a student's manual, and the fairness and impartiality of a standard work. And the preface should not be overlooked, as it is in itself an able appeal and an eloquent effusion.

Anæsthetics, their Uses and Administration. By DUDLEY WILMOT BUXTON, M.D., B.S. Fourth Edition. Pp. viii., 415. London: H. K. Lewis. 1907.—In re-editing his manual on anæsthetics, Dr. Dudley Buxton has succeeded in introducing much that is new without in any way interfering with the compactness and clearness which characterised the previous editions. Not only is the dosimetric method of administering chloroform described, but ethyl chloride is dealt with in full, and room has been found for a good account of local and spinal analgesia. As regards the fatalities under ethyl chloride, the author says that it is probable that this drug "is less safe than nitrous oxide, and must be placed between ether and chloroform in normal patients, but before ether when lung and kidney complications exist." On summing up the arguments in favour of spinal analgesia, Dr. Buxton says "those who have employed this method fail to show that it is safer than chloroform, or more free from unpleasant sequelæ," and he quotes Hare's opinion "that it is only applicable to cases for which general anæsthesia is an impossibility." Under local analgesia reference is made to the faintness and respiratory difficulty which are produced by excessive doses of adrenalin

chloride, and for injection a solution of 1 in 200,000 is recommended. The present edition is very welcome, and will doubtless be even more popular than its predecessors.

Guide to Anæsthetics. By THOMAS D. LUKE, M.B. Third Edition. Pp. xvi., 136. Edinburgh: William Green & Sons.—This excellent little book has in four years reached its third edition, which fact in itself bears testimony as to its merits. As the present edition appears within two years of the previous one it has naturally been found unnecessary to make many changes in the text. We are of opinion that the section dealing with local anæsthesia should be more fully written up. There is every reason to think that Dr. Luke will soon be called on for the fourth edition.

Golden Rules of Medical Evidence. By STANLEY B. ATKINSON, M.A., M.B. Pp. 63. Bristol: John Wright & Co.—This little book is by one who combines in himself the qualifications of doctor and barrister. The subject lends itself well to summary in this way, and the book is really valuable. The hints are most excellent and practical, and should save many a mistake. It is just the thing to refer to when concerned in a medico-legal case, as it does not take ten minutes to look right through the book. A few of the aphorisms may be quoted as specimens: "Pregnancy must not be asserted until quickening has been felt, or the fœtal parts are palpable." "The body of the coroner's officer is always available for ocular demonstrations to the jury of the sites of injuries." "An early 'I don't know' is better than a late 'I did not know.'" "If you attend a court after being subpœnaed, the fee is due even should no evidence be called."

Pulmonary Consumption. By ARTHUR LATHAM, M.D. Pp. vii., 259. London: Baillière, Tindall & Cox. 1907.—A third edition of this work on the diagnosis and modern treatment of pulmonary consumption, with special reference to the early recognition and the permanent arrest of the disease calls for little comment. New sections have been inserted on such subjects as the value of the opsonic index in diagnosis and treatment, the use of Koch's new tuberculin in treatment, and Dr. Paterson's interesting observations on the value of manual labour at Frimley Sanatorium. The book is one which should be studied by all who are interested in questions relating to the sanatorium treatment of phthisis.

Catalogue of the Pathological Museum of the Manchester University. By J. LORRAIN SMITH, M.A., M.D. Manchester: Sherratt and Hughes, at the University Press.—To the Museum curator this catalogue must prove of good service. It is arranged upon the decimal system of classification, which provides the means of describing the anatomical and pathological appearances by means of decimals. In addition, however, the specimens are fully described. As this catalogue represents the contents of the

Manchester Pathological Museum, it must be conceded that the Northern University has an excellent collection of specimens illustrating morbid lesions. We thoroughly recommend the perusal of the catalogue to those who are arranging museums or undertaking original research. It is almost unnecessary to add that Lorrain Smith's part in the work represents the high standard of excellence which we are accustomed to expect from him.

Aids to the Treatment of Diseases of Children. By JOHN McCAW, M.D., R.U.I., L.R.C.P. Edin. Third Edition. Pp. xiii., 383. London: Baillière, Tindall & Cox. 1907.—We are never quite sure whether we like least small books on big subjects, or big books on small subjects. The present volume may perhaps be included in the former class, as, although the title limits its scope to "Treatment," this cannot be considered to any advantage apart from diagnosis, symtomatology, pathology, &c.; in fact, on turning over the pages we find the ordinary arrangement is adopted, and each disease is considered under the above headings, treatment occupying no more than its usual share of the available space. Moreover, sufficient care has not been taken to exclude conditions which are dealt with in the ordinary text-books on medicine, and are not peculiar to or even common in childhood. Thus hydatid of the liver, cerebral tumour, Raynaud's disease, and amyloid disease are described in a manner too short to be of much value to the student. With the main part of the book, except for its brevity, we have little fault to find; there is a very succinct account of the principles of infant feeding and the digestive disturbances of young children, a section on the specific fevers, which does not differ much from that in most text-books of medicine, and a short account of circulatory and respiratory diseases. A propos of the latter, we are surprised to note that the author recommends aspiration in the treatment of empyema as a first resort. Other sections on blood, general and nervous diseases complete the book. There are, we suppose, some types of mind who are really "aided" by little books like this, and for them this one is sufficiently reliable. Judgment and experience, the essentials in the treatment of children's diseases, cannot be acquired from any book, but may certainly be materially assisted by some of the larger monographs on the subject. The book is well got up and printed, and has an adequate index.

St. Bartholomew's Hospital Reports. Vol. XLII London: Smith, Elder & Co. 1907.—There are many valuable and interesting papers in this volume of the reports. We may refer to a few which have specially interested us, but there are many others of equal importance, and amongst these we may mention a very exhaustive one by Dr. Finlay Alexander on "Hypertrophic Pulmonary Osteo-Arthropathy," with several good skiagraphic plates. Altogether readers of this volume, whether their interests

are medical or surgical, will find much to interest them. Dr. Herbert Williamson records two cases of large, partly solid and partly cystic, embryomata, one occurring in a girl of 16, and the other in a young man of 23, which on microscopic examination showed various elements of complex tissue, such as bone, cartilage, nervous tissue, and tissue resembling intestinal mucous membrane, as well as tissue quite like that of ordinary sarcoma and carcinoma. He refers to other cases of these "embryomata" published during recent years, and describes their character and symptoms, and relation to other forms of growth. His communication is one of considerable value. Mr. Elmslie contributes a paper on "Late Rickets: or the Continuation of Early Rickets to an unusually late age." He regards the changes in the epiphyses at the wrist as the essential condition in rickets, and refuses to recognise a case of genu valgum, even with marked bony deformity, occurring over ten years of age, as late rickets at all. We fail to see why we should thus limit the term "late rickets" to cases with epiphyseal enlargement only. Of what nature, we should be inclined to ask, does he consider the disease which manifests itself as marked deformity in the bones of the limbs in young persons from ten to twenty years of age? He gives us in his paper a table of cases of late rickets accompanied by epiphyseal enlargement. Mr. Faulder, who has been studying bronchoscopy at the clinic of Prof. Killian, of Freiburg, writes an interesting account of its use and the indications for it. The great difficulty he admits is to get the needful experience. He says, "Evidently the best way is to practise on a living subject, if such be found." We hardly think such could or should be found for the manipulative practise of the method which involves passing the instrument through the larynx into the trachæ. Its value in practised hands seems to be great in detecting foreign bodies in the bronchus, and he tells us of a case in which a stricture of the bronchus was seen and dilated with its aid.

Diseases of Women. By GEORGE ERNEST HERMAN, M.B. Third Edition. Pp xvi., 900. London: Cassell & Company Limited. 1907.—The present edition of this well-known work has been thoroughly revised and brought up to date. The plan of the book is substantially the same as in previous editions. Chapters II.—V. are devoted to a consideration of the principal symptoms of which gynæcological patients complain; and although this arrangement has its drawbacks, it is one which should prove very useful to students and practitioners. With regard to the treatment of uterine displacements, the author considers ventrofixation the most satisfactory operation for prolapse, and that of vaginal fixation for retroflexion. For intractable cases of chronic salpingo-oophoritis, removal of the uterus and appendages through the vagina is recommended; we think, however, that in most cases the abdominal operation would be the easier and safer.

The chapters on malignant disease of the uterus have been enlarged, and a fuller description of its pathology added. There is also a good account of chorio-epithelioma. For cases of fibromyoma of the uterus requiring operation the author recommends abdominal hysterectomy; myomectomy he considers has a very limited field of usefulness, and oophorectomy is obsolete. In Chapter I. a good account of the pathology of vascular caruncle is given. Throughout the book special attention is devoted to the clinical aspects of diseases of women, and the details of treatment and operative measures are fully described. The illustrations throughout are numerous and well executed, and the letterpress is excellent.

Annual Report of the Board of Regents of the Smithsonian Institution for the year ending June 30th, 1905. Washington: Government Printing Office. 1906.—This is not such a bulky volume as usual, but the papers which it contains are of the same absorbing interest that we are accustomed to. The papers dealing with medical subjects are a paper read before the Indian section of the Society of Arts in May, 1905, by Dr. Creighton on "Plague in India," in which he points out that plague especially affects villages where the inhabitants live in dwellings the walls of which are made with mud, and that there can be no real cure for the devastations of the disease without a more civilised kind of dwelling; and one on the "Fight against Yellow Fever," by A. Dastre, showing the success that has been obtained in stamping out yellow fever by waging war against the special mosquito which is the cause of the disease. Another medical paper is "Progress in Radiography," by L. Gastine, written in 1905. Since this date still further progress has been made in this science, and it is interesting, on looking over a paper written only two years since, to see how X-ray methods continue to be improved. A very curious paper to read at the present day is a "History of Photography," which consists of extracts from a *Manual of Photography* by Robert Hunt, published in 1854, and is devoted to giving an account of Sir John Herschell's researches into the effect of light on substances other than silver salts—such as the cyanides—and his efforts to get a workable photographic process from the same. Papers on the "Genesis of the Diamond," "Gold in Science and in Industry," and "Liberia" may be picked out as well worth reading; but perhaps the paper of all others which appealed to us was the paper read before the Royal Geographical Society in February, 1905, by Sir Frank Younghusband on the "Geographical Results of the Tibet Mission." The enthusiastic way he describes the scenery passed through, the way the members of the expedition bore their privations, and the successful accomplishment of the expedition, makes one of the most refreshing bits of reading that we have come across for a long time.

Editorial Notes.

Bristol Royal Infirmary.

A SPECIAL meeting of the Governors of this institution was held in the board-room on December 5th, to consider changes in the rule 36, when, as the outcome of the recent controversy and in accordance with the agreement arrived at previously between the Committee and the Faculty, the following rule was put to the meeting and carried:—

> "No member of the Honorary Staff shall hold any Union or Club appointment. No member of the full Staff, or of the Assistant Staff, shall hold any other General Hospital appointment or more than one special Hospital appointment, but this rule shall not preclude members of the Honorary Staff accepting purely consulting and not active appointments at another hospital. That the full Physicians shall limit their practice to medical work. That the full Surgeons shall limit their practice to surgical work. That each of the Specialists shall limit his practice to his speciality,"

thereby annulling the rule proposed and carried at the last Board meeting, and to which the Medical Faculty could not give its consent.

* * * * *

Food-fads and Faddists.

DR. W. HALE WHITE, in his address in Medicine, delivered at the Annual Meeting of the British Medical Association at Exeter, pleading for accuracy of thought in medicine, and speaking on the habit of using the term irregular gout as a cloak for pathological ignorance, remarked that "the symptoms of irregular gout were commonly ascribed to an excess of uric acid or bodies allied to it in the blood. Some do this without knowing the amount of uric acid present in the blood

of a healthy person, without drawing any distinctions between endogenous and exogenous uric acid, without any attempt to estimate the uric acid in the patient's blood, without any experimental evidence that the injection of uric acid into the blood produces the symptoms in question, and without any thought of the fact that in some forms of leukæmia there is an excess of uric acid in the blood without the symptoms supposed to indicate suppressed gout. This doctrine has become so widespread, that even the public tell us that their symptoms are caused by an excess of acid. Having assumed, not proved, that the symptoms the patient has are due to irregular gout, and having assumed, not proved, that this is due to an excess of uric acid, the next assumption made is that certain foods cause an excess of uric acid; some say carbohydrates, some say fats, some say proteids, and it would be quite easy for a patient to consult three doctors in turn, and if he followed all, his diet would be water and nothing else. He who believes proteids harmful is the most artistic, for he has an eye to colour, and may, as a concession, allow white meat although he prohibits red. Where on earth is the justification for this? Are there any experiments showing that steak leads to more uric acid in the blood than chicken? Have a hundred cases of so-called irregular gout been published and contrasted with another hundred similar in their treatment, except that in one series red meat was replaced by an equal amount of white? Surely you will agree with me that all this is not a credit to us as members of a scientific profession. The simple fact that although gout has become much less common the consumption of meat has enormously increased, ought alone to make those who forbid proteids pause. The imagination of some has carried them still further. The fact that both gout and chronic osteo-arthritis are long-lasting diseases of joints has led them to think that as sufferers from one should be dieted, so those afflicted with the other; hence we find patients who have chronic osteo-arthritis forbidden various articles of food, sometimes, for example, sugar. Looked at calmly this is extraordinary, for there is not an atom of evidence that any particular article of food influences chronic osteo-arthritis. Have we in some of

our statements about the harmfulness of particular foods advanced beyond Ibu Haukal, who in about A.D. 950, describing the inhabitants of Palermo, said, "Their evil habit of eating raw onions in excess; for there is not a person among them, high or low, who does not eat them in his house daily, both in the morning and evening. This is what has ruined their intelligence, and affected their brains, and degraded their senses, and distracted their faculties, and crushed their spirits, and spoiled their complexions, and so altogether changed their temperament that everything, or almost everything, appears to them quite different from what it is." I strongly suspect that in those days onions were a cause of irregular gout.

The literary output on the subject of foods and food-fads has of late been enormous. The older views of Banting, the more modern ones of Fletching, the grape-nuts of Bernard Shaw, the apples of Haddow, the various vegetable fancies of Eustace Miles, the cheese diet of Dr. Haig, the use of Bulgarian sour milk, and that of a crowd of patent foods and drinks of various kinds, lead to the natural conclusion that a diet grounded on common sense is, perhaps, after all the best. Some are afraid of meat because of its toxins, and of broths because of their purin and waste products; others fear that a vegetable diet may end in gastric dilatation, and that salads may harbour uncooked microzoa and bacteria; milk and butter must be dangerous inasmuch as they harbour the germs of tubercle; even bread may charge the blood with acids, whilst water may contain the germs of typhoid, and alcohol is a concentrated poison: hence it may be assumed that the only reasonable course is to eat, as appetite prompts, those viands which have been found by the experience of centuries to be harmless, and that neither the use of meat, soup, wine, condiments, fruits, vegetables, or coffee will be likely to shorten our days, although the abuse of some of them may.

It has been pointed out by Pawlow that we cannot live on chemical formulæ or on calories, and Chittenden maintains that the dietetic customs and habits of mankind are not much to the point, inasmuch as instinct and craving are not wise guides. What

has been called the "cabbage inspired" writings of the vegetarians are still less to the point, but direct physiological experiment should be the only scientific guide to an "ideal diet." Chittenden pleads that over-feeding is the predominant dietetic sin; his newer experiments on dogs on the effects of a low proteid dietary confirm his former views that the commonly accepted "normal" and "standard" diets contain an excessive amount of proteid, and he has shown by observations on men of the Army Hospital Corps, and more recently again on university athletes, that the body weight and nitrogen equilibrium can be maintained on an amount of proteid food far below the usual dietary standards.[1]

Far more important than the regulation of the quality of the food appears to be the important questions relating to the quantity of the same. These are discussed at considerable length by Van Noorden[2] in chapters on under-feeding and over-feeding. The general conclusion appears to be that it is impossible to draw up fixed, rigid rules for the individual; the personal equation is the all-important question, hence there is much excuse for the numerous vagaries in diet now in vogue, and much scope still remains to the manufacturing chemist for the unlimited increase of eccentricities in food and drink.

The importance of the personal element in dietetics is well illustrated by Dr. Leonard G. Guthrie.[3] He writes as follows:—

"The diet suitable for neurotic children is indeed always a matter of perplexity—no fixed rules for all are possible. Some abhor milk in any form, and would live on meat and pickles only; to others, meat and fat in almost any shape are abominable; some can only relish bread and butter, sweets and jam; some can hardly be induced to touch fresh vegetables or fruit, others would live on nothing else; some regard with suspicion the slightest variation and innovation in their diet, others will not eat the same food twice." He further adds that

[1] *The Nutrition of Man.* Chittenden. Heinemann, 1907.

[2] *Metabolism.* Translated by Walker Hall. Heinemann, 1907.

[3] *Functional Nervous Disorders in Childhood.* Oxford University Press, 1907, p. 25.

"our tastes and distastes with regard to food are generally formed in early life, and what we do not like is almost certain to disagree with us." We all realise how difficult the problems of diet in sickness become when the patient has abhorred milk in early life, and will have none of it afterwards.

* * * * *

Winsley Sanatorium.

THE second annual report of this Institution has been before us for some months. The medical profession generally is fully alive to the value of the work done in an Institution which has now shown itself to be a necessity, and to be an indispensable auxiliary to the National Association for the Prevention of Consumption. We think, however, that the public has not yet fully realised what good work is being done for the three Counties of Gloucester, Somerset and Wilts, and the City and County of Bristol. The Sanatorium is saving and prolonging many valuable lives, and is doing a great educational work. It is not, however, sufficiently known that whilst its finances remain in the unsatisfactory state which still continues it has been arranged by the Board of Governors that "In case any maintained bed shall not have been actually allocated to a local authority, public body, firm, group of persons, or private donor, who shall have agreed to maintain the same, the committee of management shall be at liberty to admit patients to such bed at the following charges: To persons resident within the Counties of Somerset, Gloucester and Wilts, and the City and County of Bristol, £1 15s. per week; to persons not so resident, £2 10s. per week." During the past year many paying patients have been admitted under this rule, and it is of great assistance to the funds to have these beds fully occupied. Medical men are asked to remember that there is commonly no difficulty in securing admission to any patient on this basis.

We are glad to take this opportunity to welcome the arrival of the newly-appointed medical officer, Dr. A. Lewthwaite, who comes from Dr. Otto Walther's Sanatorium in the Badischer Schwarzwald.

An Imperial Dispensatory.

We wish to direct especial attention to a review of the *British Pharmaceutical Codex* for the use of medical practitioners and pharmacists which will be found on page 358.

This *Codex* has been published by the authority of the Council of the Pharmaceutical Society of Great Britain, and although it has not quite the authority of the British Pharmacopœia it is likely to be a far more useful work. Every medical man should possess it, and it should be a constant companion both to prescriber and dispenser. We are indebted to Mr. A. L. Taylor, of the Bristol Royal Infirmary, for the excellent summary of a book which must make a great difference in the work of the pharmaceutical dispenser throughout the world.

* * * * *

"Codex" Review.

A striking, if unintentional, testimony to the value of the new *Codex* is provided by a little red pamphlet, received apparently by all the members of the medical profession in Bristol, and presumably other places, entitled "A Curious Codex." The noble and disinterested zeal with which the author expresses his righteous indignation at the omission of the mention of "Gingament" will surely be recognised by all prescribers of "Oids."

Two salient facts stand out in happy contrast to the mass of puerility and diluted sarcasm provided by the writer. One, already dealt with in the review of the *Codex* in this number, the need for some distinguishing mark of the B.P. article as compared with B.P.C. The other—the writer's own statement, born doubtless of inward conviction—that his pamphlet is too long.

* * * * *

University College, Bristol, Faculty of Medicine.

The Right Hon. Lewis Fry again presided at the annual distribution of prizes to the students of the medical department of the College at the commencement of the medical session in October, when Professor Francis Gotch, M.A., D.Sc., F.R.S., gave a highly stimulating

address on the question of University extension, and asked the question: "When will Bristol do what Liverpool has done, and attain its educational manhood." Prof. Gotch, as a Bristolian, is anxious for the reputation of the city. It was his hope and his firm belief that he might very shortly have the great pleasure of rejoicing with his fellow-Bristolians over the realisation of the long-expected University scheme, for when once started on a wide basis, it would astonish them by its vitality and free growth, and would become the pride of those who established and supported it.

Another noteworthy address given recently is that of Prof. Francis Francis on "The Nitrogen of the Atmosphere," particularly in relation to food supply.

The annual dinner was presided over by an old and distinguished student of the College, Mr. J. H. Parsons, F.R.C.S., who was supported by Prof. Francis Gotch as the guest of the evening. Prof. Walker Hall, in responding to the toast of the Bristol Medical School, remarked that this Faculty is a source of strength to the city and county, that it is an important factor in the every-day life of the community, and that it is doing good work, which will at one time or another benefit the individual citizen.

Prof. Gotch's missionary effort on behalf of the University scheme should do much to stimulate the local influences which are working steadily in that direction.

Notes on Preparations for the Sick.

Kuhn's Suction Mask.—ROBORAT COMPANY, 8 Harp Lane, London, E.C.—For the congestive treatment of pulmonary tuberculosis and asthma, in accordance with Prof. Bier's system of artificial hyperæmia. The mask is made of celluloid, the mouth and nose portions being separate chambers. When applied to the face by means of the elastic band (which should be fastened round the neck under the ears), both nose and mouth are completely shut in. The air tube should be always well inflated, a tight constriction being placed around the small rubber tube after blowing up. A trial may then be made with the sliding valve in the nose portion completely closed, when respiration will be found

to be so much impeded as to become impossible. As a general rule, breathing should take place only through the nose, though in case of impediment arising from cold or other cause, air may be made to enter the mouth by opening the sliding valve in the cross partition. Expiration occurs unhindered through the circular valve provided for the purpose in both portions of the apparatus, and, with practice, can be made to take place quite freely through the mouth even with the valve aperture somewhat diminished. The aim of the use of the mask is, by providing a resistance to the intake of air into the lungs, to bring about an increased negative pressure in the thorax and thereby suction of blood into the lungs. The greater the resistance, therefore, and the longer it is continued, the greater becomes the amount of blood flowing into the lungs. It should not, however, be so great or so long continued as to bring on unpleasant by-effcts, such as headache or other discomfort. It is quite possible that during the first few days of use there may be some singing in the ears, in which case it is recommended that the mouth be closed, the nose held, and the cheeks inflated, when it will be found that air drawn out of the middle ear while wearing the mask is replaced through the Eustachian tubes. Another simple remedy is to make a few purposeiul swallowing movements. This symptom is not of frequent occurrence, and in any case disappears after a few days. Inspiration against resistance by means of this method should be an active agent in the treatment of anæmic or tuberculous subjects. An increase in the number of red blood corpuscles is brought about, and an increased hyperæmia should have a beneficial influence upon the upper parts of the lungs which are most prone to tuberculosis. Good results have been obtained by Prof. von Leyden at the Berlin Charité.

Formidine : Methylen Disalicylic Acid Iodide. — PARKE, DAVIS & CO., London.—Formidine is an internal and external antiseptic and a substitute for iodoform. It is a true chemical compound, a condensation product of iodine, formic aldehyde, and salicylic acid, having the formula $C_{15}H_{10}O_5I_2$. It may be called an iodised derivative of salicylic acid and formic aldehyde, exhibiting none of the physical characteristics nor responding to any of the chemical tests for its constituent bodies until decomposed. Formidine is a reddish-yellow powder, tasteless, and having a slight but not disagreeable odour suggestive of iodine ; it contains about 47 per cent. of this element. It is perfectly stable in the dry state. When heated, iodine is liberated, the substance melts, then chars, and is finally consumed without leaving any ash. It is insoluble in water, dilute acids, alcohol, and most other ordinary solvents, and does not decompose with glycerin. When brought into contact with alkaline organic secretions it slowly dissolves and develops the characteristics of its constituents, iodine,

salicylic acid, and formic aldehyde. It is supplied in five grain capsules for internal administration, and in this form it appears to be one of the best of intestinal antiseptics.

Egmol.—PARKE, DAVIS & Co., London.—This preparation contains 40 per cent. of finest olive oil emulsified with fresh eggs and flavoured with best French brandy. It is a nutritious and stimulating food, which may be prescribed with excellent effect in wasting diseases. For those patients who cannot tolerate cod liver oil, egmol forms an excellent substitute; indeed, experiments carried out by Cunningham (vide *Journal of Physiology*, xxiii. 209) seem to show that owing to more perfect assimilation, olive oil may be ranked above cod liver oil as a flesh former and heat producer. Egmol is a perfect and stable emulsion, and in every way an excellent example of good pharmacy.

Petroleum Emulsion.—PARKE, DAVIS & Co., London.—In spite of its slight utility, there has arisen a demand for an emulsion of petroleum. Much of the liquid paraffin of commerce is undesirable for medicinal use, but in the P. D. & Co. petroleum emulsion a pure fluid hydrocarbon is used, which is wholly free from acid traces and from the sulphur compounds often present in imperfectly refined liquid paraffin, and with it are associated suitable amounts of the hypophosphites of calcium and sodium.

Adrenalin and Chloretone Ointment.—PARKE, DAVIS & Co., London.—This addition to the various modes of applying adrenalin contains one part of that drug with fifty parts of chloretone in each 1,000 parts, and by thus combining the constringent, analgesic and antiseptic powers of its constituents forms a most effective remedy in all indolent inflammations, in hemorrhoids, pruritus ani, pruritus vulvæ, eczema, chronic congestions of the nose and ear, &c. In ophthalmic work it is useful in simple or purulent catarrhal inflammations. It is supplied in collapsible tubes with elongated tips, which facilitate nasal or rectal medication.

Cholelith Pill (Pilula Cholelithica).—PARKE, DAVIS & Co., London.—This chocolate-coated pill is a combination of oleate and silicylate of sodium with phenolphthalein and menthol. It is a new combination of drugs, which appears to have marked power to increase the amount of hepatic secretion, and to promote a due proportion of biliary acid salts wherewith to dissolve gall concretions, or at least so to diminish their size that they may be expelled naturally.

Black Wash Tablets.—PARKE, DAVIS & Co., London.—The provision of the chemical constituents of lotio hydrarg. nig. B.P.

in accurate proportions needing only to be treated as directed on the label, will be found a great convenience, particularly by medical officers to expeditions, to whom lime water may be a troublesome, if not unattainable, item.

"Tabloid" Capsule Calcium Iodo-Ricinoleate, gr. 3 (0.194 gm.).—BURROUGHS, WELLCOME & CO., London.—Calcium iodo-ricinoleate is a new salt containing a large proportion of iodine, which combines the therapeutic value of calcium and of the iodides. It is tasteless and odourless, and is not affected by the gastric juice. It produces no digestive disturbance, and is well tolerated by patients who cannot take potassium or sodium iodide.

Calcium iodo-ricinoleate possesses in a marked degree the valuable action of its components, and in syphilitic cases the results obtained compare favourably with those of treatment by the iodides. It has proved very successful in condylomata and other specific manifestations, whilst in stubborn cases of ulcers—including rodent ulcer, which resisted other treatment—it has been reported to produce a healthy granulating surface. Various affections of lymphatic glands and of the thyroid have been favourably influenced by the administration.

One to three may be swallowed with water three or four times daily after food.

"Phytin" Preparations.—SOCIETY OF CHEMICAL INDUSTRY, Basle. London Agency, Harp Lane, E.C.—"Phytin" is stated to be the organic phosphorus-reserve material of green plants, and has been extracted from numerous seeds such as peas, haricot beans, and sunflower seeds.

It is a white powder, almost tasteless, and not very soluble in water.

Examination showed it to contain organically-combined phosphorus in large quantity.

It is supplied in capsules in the liquid form, and in combination with quinine.

For children it is prepared in combination with sugar of milk under the name of "Fortessan."

No doubt the various "Phytin" preparations will prove valuable adjuncts to the older phosphorus-containing organic compounds used in medicinal dietetics.

Theinhardt's Food for Infants.—THEINHARDT'S FOOD COMPANY, London, E.C.—This food has gained considerable popularity during recent years, and is no doubt one of the best on the market.

The makers claim it to be "The Ideal Food for Infants,"

this being partly based on a table giving the analyses of various proprietary foods.

We may point out that chemical analysis is not by any means the chief criterion of " food value," and many of the foods which are compared with " Theinhardt's " have proved themselves to be of great value in the diet of infants and invalids. We consider that any preparation should be judged on its own merits, and not on the doubtful demerits of others.

The analyses of various foods, compiled from Hutchison's and Konig's works on the subject, give very interesting results, but the table is too lengthy to reproduce. It shows that the Infantina food (Theinhardt's Soluble Infants' Food) contains a very high percentage of nitrogenous and fatty matters, and that the Hygiama is even richer in nutritive matter of the highest value.

We are informed that these foods are in constant use at the Milk Depots of Berlin and Charlottenburg. The Infantina is intended for infants from birth up to two years of age, and the Hygiama is for older children and adults.

They are excellent foods, worthy of all commendation. The Hygiama differs from the other food in that it is flavoured with cocoa, and may be taken either in solid form, or as a substitute for tea or coffee: when so used it forms a very palatable and nutritious beverage.

" Manhu " Diabetic Foods.—MANHU FOOD COMPANY, Liverpool.—Under the above name several preparations are introduced for the use of diabetic subjects.

The firm claim that they have " changed " the starch without eliminating it, thus rendering it perfectly safe for diabetic patients.

This statement admits of criticism, for it is doubtful whether a physical or chemical change is referred to.

On several occasions we have chemically and microscopically examined several " Manhu " preparations, and found abundant evidence of the presence of starch, which gives the usual re-actions characteristic of this substance. Under these circumstances it is hard to understand the great superiority claimed for such preparations, as physicians can only condemn " diabetic " foods which actually contain starch grains in abundance.

We are of opinion that such foods as this for the diabetic are very misleading and dangerous. They are given to patients to whom starchy foods are forbidden, and the result is sometimes disastrous.

" Miol."—MIOL MANUFACTURING COMPANY, 66 Southwark Bridge Road, London, S.E.—Within the last few years numerous

compounds, with malt extract as the chief ingredient, have been manufactured.

"Miol" appears to be one of the latest of these, a distinctive feature being that it contains, among other ingredients, the finest olive oil.

It is recommended as a valuable food in consumption and other diseases where cod liver oil is usually prescribed.

"Miol" is not unpleasant to take, the taste of the olive oil being partially covered by the malt; but we think it somewhat doubtful whether olive oil approaches cod liver oil for the cases in which the latter can be absorbed and assimilated.

"Miol" may prove of service in those cases where preparations of cod liver oil cannot be administered or digested.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September:

November 30th, 1907.

The Chicago Pathological Society (1)	1 volume.
L. M. Griffiths (2)	7 volumes.
Dr. A. B. Judson (3)	1 volume.
The Middlesex Hospital (4)	1 ,,
The Surgeon-General, United States Army (5) ..	1 ,,

SIXTY-SIXTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors and show by whom the volumes are presented. The books to which no such figures are attached have either been bought from the Library Fund, or received through the *Journal*.

Allbutt and H. D. Rolleston, T. C. [Eds.] *A System of Medicine* Vol. III.	1907
Berdoe, M. .. .. *Essay on the Pudendagra* .. .. .. (2)	1771
Bigg, G. S. .. .. *Cancer*	1907
Boureart et F. Cautru, M. *Le Ventre.* Pars II...	1908
British Pharmaceutical Codex, The	1907
Bunge, G. v. .. *Text-Book of Organic Chemistry.* (Tr. by R. H. A. Plimmer)	1907
Campbell, H. .. *Aids to Pathology*	1908
Catalogue (Index-) of the Library of the Surgeon General's Office, United States Army. 2nd Ser., Vol. XII. (5)	1907
Cautru, M. Boureart et F. *Le Ventre.* Pars II...	1908
[**Cecil**] .. .. .. *The Stud Farm* .. .. .. (2) New Ed.	1876
Collier, R. Hutchison and H. S. [Eds.] *An Index of Treatment*	1907

Corner and H. I. Pinches, E. M. *The Operations of General Practice* 1907

Crowe, H. W. .. *Consumption: Home Treatment and Rules for Living* .. .. [2nd Ed.] 1907

Cunningham. D. J. *Manual of Practical Anatomy.* 2 vols. 4th Ed. 1907

Dampier-Bennett, A. G. *Physical Methods in the Treatment of Heart Disease* 1907

Dore, M. Morris and S. E. *Light and X-ray Treatment of Skin Diseases* 1907

Encyclopedia and Dictionary of Medicine and Surgery. Green's Vols. V., VI. [1907]

Esmarch, F. .. .. *First Aid to the Injured.* (Tr. by H.R.H. Princess Christian) .. .. 7th Ed. 1907

Fernie, W. T. .. *Precious Stones (Curative)* 1907

Goodall, G. H. Savage and E. *Insanity and Allied Neuroses* New [3rd] Ed. 1907

Harman, N. B. .. *Preventable Blindness* 1907

Hart, A. H. .. .. *Some Successful Prescriptions* 1907

Hughes, E. L. .. *Squint and Ocular Paralysis* 1907

Hutchison and H. S. Collier, R. [Eds.] *An Index of Treatment* 1907

Jones, R. .. .. *Mental and Sick Nursing* 1907

Judson, A. B. .. *Growth and Deformity* .. .. .. (3) 1905

Kenwood, L. C. Parkes and H. R. *Hygiene and Public Health* 3rd Ed. 1907

M'Vail, J. C. .. *The Prevention of Infectious Diseases* .. 1907

Manson, Sir P. .. *Tropical Diseases* .. .. 4th Ed. 1907

Micholitsch, E. Wertheim and T. *The Technique of Vagino-Peritoneal Operations.* (Tr. by C. Lockyer) 1907

Morris and S. E. Dore, M. *Light and X-ray Treatment of Skin Diseases* 1907

Muir and J. Ritchie, R. *Manual of Bacteriology* .. .. 4th Ed. 1907

Nelson, J. .. .. *The Government of Children* (2) 2nd Ed. 1756

Newman, D. .. .. *Movable Kidney* 1907

Nichols, J. B. .. *Diet in Typhoid Fever* 1907

Noorden, C. von .. *Metabolism and Practical Medicine.* (Ed. by I. W. Hall) Vol. III. 1907

Parkes and H. R. Kenwood, L. C. *Hygiene and Public Health* 3rd Ed. 1907

Parsons, J. H. .. *Diseases of the Eye* 1907

Partridge, W. .. *The Bacteriological Examination of Disinfectants* 1907

Paton, D. N. .. *Essentials of Human Physiology* 3rd Ed. 1907

Pinches, E. M. Corner and H. I. *The Operations of General Practice* 1907

Ritchie, R. Muir and J. *Manual of Bacteriology* .. 4th Ed. 1907

Robson, A. W. M. *Cancer of the Stomach* 1907

Rolleston, T. C. Allbutt and H. D. [Eds.] *A System of Medicine* Vol. III. 1907

Russell, Hon. R. .. *The Reduction of Cancer* 1907

Sajous, C. E. de M. *The Internal Secretions.* Vol. II. 1907

Saundby, R.	*Medical Ethics* .. .. 2nd Ed.	1907
Savage and E. Goodall, G. H.	*Insanity and Allied Neuroses* New [3rd] Ed.	1907
Schrötter, L. von ..	*Hygiene of the Lung.* (Tr. by H. W. Armitt)	1907
Stephenson, S. ..	*Ophthalmia Neonatorum*	1907
Taylor, S.	*On Acute Pneumonia*	1907
Treves, Sir F. ..	*Surgical Applied Anatomy* (Revised by A. Keith) .. .. 5th Ed.	1907
Turner, W. A. ..	*Epilepsy*	1907
Wertheim and T. Micholitsch, E.	*The Technique of Vagino-Peritoneal Operations.* (Tr. by C. Lockyer)	1907
Wilson, T. ..	*Pelvic Inflammations in the Female*	1907
Wynter, W. E. ..	*Minor Medicine*	1907

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of Obstetrics, The	Vol. LV.	1907
American Journal of the Medical Sciences, The	Vol. CXXXIII.	1907
American Pediatric Society, Transactions of the	Vol. XVIII.	1907
Archives of the Middlesex Hospital	(4) Vol. XI.	1907
Boston Medical and Surgical Journal, The	Vol. CLVI.	1907
Bristol Health Report for 1906		1907
British Gynæcological Journal, The	Vol. XXII.	1906–07
Chicago Pathological Society, Transactions of the	(1) Vol. VI.	1906
Clinical Journal, The	Vol. XXX.	1907
Glasgow Medical Journal, The	Vol. LXVII.	1907
Henry Phipps Institute, Third Annual Report of the		1907
Hospital, The	Vols. XLI., XLII.	1907
Journal of Medical Research, The	Vol. XVI.	1907
Journal of Mental Pathology, The	Vol. VII.	[1907]
Journal of Obstetrics and Gynæcology, The	Vol. XI.	1907
Journal of the American Medical Association, The	Vol. XLVIII.	1907
Library Association Record, The	Vol. VII.	1905
Library World, The	Vol. IX.	1906–07
Medical Chronicle, The	N.S., Vol. XII.	1906–07
Medical Press and Circular, The	[Vol. CXXXIV.]	1907
Medical Record	Vol. LXXI.	1907
Odontological Society of Great Britain, Transactions of the	Vol. XXXIX.	1907
Practitioner, The	[Vol. LXXVIII.]	1907
Progressive Medicine	Vol. III.	1907
Royal Academy of Medicine in Ireland, Transactions of the	Vol. XXV.	1907
Scottish Medical and Surgical Journal, The ..	Vol. XX.	1907
Sociedad de Beneficencia de Buenos Aires—Memoria del 1906 ..		1907
Univ. of Penna. Medical Bulletin	Vol. XIX.	1907

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

Annual Meeting, October 9th. 1907.

After a vote of thanks to the retiring President, Mr. James Taylor, had been passed, Dr. Waldo took the chair and gave an introductory address (see p. 289). Later a cordial vote of thanks was given to Dr. Waldo for his able and interesting address.

The Honorary Secretary, Mr. H. F. Mole, read his annual report. The balance in hand, on the ordinary account, was £120 18s. 7d. The Society had lost two members through death, viz. Dr. Markham Skerritt and Mr. H. W. Kendall, and nine members had left the Society owing to removal, &c. Sixteen new members had been elected.

The Editorial Secretary of the *Journal*, Mr. James Taylor, read his annual report.

Mr. Munro Smith read the Library report, which showed that there were 20,989 volumes in the library, and that 237 periodicals were regularly received.

The following officers were chosen for the ensuing year: President-elect—Dr. Michell Clarke; Hon. Secretary—Dr. J. A. Nixon; Members of Committee—Dr. B. M. H. Rogers, Dr. P. Watson Williams, Mr. C. K. Rudge, Dr. James Swain, Dr George Parker, and Prof. Walker Hall; Members of the Library Committee—Mr. C. K. Rudge, Mr. Munro Smith, and Dr. C. F. Carey Coombs.

November 13th, 1907.

Dr. Henry Waldo, President, in the Chair.

Nearly the whole time of the meeting was devoted to the consideration of a special report of the Library Committee. Printed copies of this report had been previously posted to the members of the Society. The various suggestions made by the Committee for the improvement of the library were considered seriatim, and except for some minor alterations were approved.

Dr. Temple showed microscopic sections of a **pigmented growth** he had removed two years previously from the prepuce of a boy aged 9. The small tumour had followed an injury. A distinguished pathologist had examined the sections, and pronounced the tumour to be a melanotic sarcoma. Such a growth at the age of nine and in the situation described seemed unique.

J. Lacy Firth.
J. A. Nixon.

RECEIPT AND EXPENDITURE ACCOUNT OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY, SESSION 1906-7.

	£	s.	d.
Carried forward from 1905–6	147	14	6
Members' Subscriptions, 1906–7	157	10	0
Interest on Deposit Notes	3	4	4
Feb. 17.—Excess on Dr. A.'s cheque ..	0	4	0
	£308	12	10

1906.	£	s.	d.
Oct. 22.—Grant to Library	60	0	0
Stamps	1	0	0
Grant to Librarian ..	5	5	0
Dec. 19.—Cheque Book	0	2	6
Telephone	3	10	0
1907.			
Jan. 10.—Grant to Library	15	0	0
,, 18.—Lamp	0	16	3
Feb. 6.—Stamps	1	0	0
May 23.—To Porter ..	1	5	3
,, 24.—For use of lantern	0	15	6
Sept. 12.—For use of rooms	52	10	0
,, 17.—Printing ..	1	13	6
,, Do.	3	11	0
,, 26.—To *Journal* ..	40	5	0
Sundries ..	1	0	3
	£187	14	3
Balance as per deposit note No. 375	120	18	7
	£308	12	10

Local Medical Notes.

University College, Bristol.—Examination Results :—

M.B., B.S. Lond.—A. J. M. Wright (Distinguished in Medicine and Surgery).

W. S. V. Stock, M.B., B.S. Lond., and S. C. Hayman, M.R.C.S., L.R.C.P., have passed the final examination for the Fellowship of the Royal College of Surgeons, England.

M.D. Durh.—H. T. S. Aveline, M.R.C.S.

M.R.C.P. Lond.—George Basil Price, M.D. Lond.

CONJOINT BOARD.—*Practical Pharmacy:* L. C. Watkins-Baker, T. E. Ashley. *Anatomy and Physiology:* B. C. Eskell, T. S. Rippon. *Surgery:* C. Clarke, P. S. Tomlinson, E. V. Connellan. *Midwifery:* E. R. Sircom.

L.S.A. Lond.—*Medicine, Section II.:* E. V. Connellan.

L.D.S. Lond.—*Chemistry:* G. Smith. *Final Examination:* Cuthbert G. Plumley.

Bristol Royal Infirmary.—A. Lewin Sheppard, M.B., B.S. Durh., has been appointed Senior Resident Officer and House Surgeon, and A. W. Falconer, M.D. Aberd., House Physician.

Bristol General Hospital.—The following appointments have been recently made:—*House Physician:* C. S. Rivington, M.R.C.S., L.R.C.P. *House Surgeon:* J. W. J. Willcox, M.R.C.S., L.R.C.P. *Casualty House Surgeon:* A. E. Iles, M.R.C.S., L.R.C.P. *Assistant House Physician:* W. Bruce Low, M.B., B.Ch. Edin.

Long Fox Lecture.—The next Long Fox Lecture will be delivered by Dr. Watson Williams, on Thursday, January 16th, 1908, at 4.15 p.m. in the Medical Library, University College, Bristol. Subject: "*Suppurative Disease in the Nose and Ear, with special reference to newer methods in Diagnosis and Treatment.*"

BRISTOL.

Consultations at the Bristol Workhouses.—At a recent meeting the Bristol Board of Guardians considered a report of the hospital committee, which contained a recommendation to appoint a consultant to be availaible in case of difficulty occurring in the treatment of patients in the Infirmary wards at either of the two workhouses, or where the workhouse medical officer would like to have the advantage of a second opinion. In the discussion of the report it was stated that there were no suitable operating theatres at the workhouse infirmaries, and that it was the custom to send patients for operation to the Royal Infirmary.

BATH.

Bath Royal United Hospital.—Thanks to the efforts of the Mayor of Bath (Mr. S. W. Bush), this institution is now free from debt. His Worship, at the outset of his mayoralty, announced that his endeavour would be to free the hospital from its debt of £6,124, and we heartily congratulate him upon his success.

Bath Royal Mineral Water Hospital.—The governors of this hospital have decided to decrease the number of beds from 155 to 150 from lack of funds, but the Mayor of Bath is making an effort to secure increased support, so that this retrograde step shall not be necessary. It is pointed out that of the present 149 in-patients only one belongs to Bath. It is claimed, therefore, that the hospital is national in its operations, and justly appeals for national help.

Winsley Sanatorium.—Alfred Lewthwaite, M.B. Lond., has been appointed Resident Medical Officer to this institution, vice E. D. Townroe, resigned.

INDEX.

(R.) = Review.

Abdominal aorta, Aneurysm of the—Dr. F. P. Nunneley (R.), 353.
Acetone bodies, The, 59.
Adami, Dr. J. G.—Inflammation (R.), 355.
American Pediatric Society, Transactions of the (R.), 172
American Surgery in 1906, Glimpses of—C. H. Whiteford (R.), 264.
Anæmia, Pernicious, 239.
Anæsthetic poisoning, Delayed, 156.
Anæsthetics, Guide to—Dr. T. D. Luke (R.), 364.
Anæsthetics their uses and administration—Dr. D. W. Buxton (R.), 363: Dr. F. W. Hewitt (R.), 362.
Anatomy: Manual of—Dr. A. M. Buchanan (R.), 251, 354; Textbook of—Dr. D. J. Cunningham (R.), 168.
Aneurysm of the abdominal aorta—Dr. F. P. Nunneley (R.), 353.
Angioma of the liver, Acquired—Dr. A. L. Sheppard, 46.
An Imperial Dispensatory: The British Pharmaceutical Codex (R), 358.
Antenatal pathology and hygiene: the embryo—Dr. J. W. Ballantyne (R.), 254.
Aorta, Compression of, in treatment of post-partum hemorrhage—Dr. F. P. Elliott, 121, 310.
Aphonia, A suggested treatment for functional—Dr. C. P. Crouch, 214.
Atheroma, Experimental. 342.
Atkinson, Dr. S. B.—Golden rules of medical evidence (R.), 364.
Auscultation and percussion—Dr. S. Gee (R.), 362.

Bacterial origin of general paresis, 348.
Bacteriology, Applied—C. G. Moor and R. T. Hewlett (R.), 171.
Ball, Dr. J. B.—A handbook of diseases of the nose and pharynx (R.), 173.
Ballantyne, Dr. J. W.—Antenatal pathology and hygiene: the embryo (R.), 254.
Banti's disease with complications—Dr. R. Roxburgh, 286.
Beasley's book of prescriptions (R.), 261.
Beddoe, Presentation of portrait of Dr. John, 288.
Bier's method of producing passive hyperæmia, 61.
Bigg, H.—Spinal curvatures (R.), 264.
Biographic clinics—Dr. G. M. Gould (R.), 255.
Blackham, R. J.—The care of children (R.), 75.
Bland-Sutton, J.—Gallstones and diseases of the bile-ducts (R.), 170; Tumours, innocent and malignant (R.), 361.
Blood changes in general sarcoma—Dr. F. G. Bushnell, 321.
Blood-glands as pathogenic factors in the production of diabetes, 57.
Blood pressure, Studies in—Dr. G. Oliver (R.), 73.
Breast, Cancer of the—W. S. Handley (R.), 253.
Breast, Excision of, for carcinoma, 344.
Brend, Dr. W. A.—A handbook of medical jurisprudence and toxicology (R.), 261.
Bristol General Hospital, Description of new isolation block at, 93.
Bristol Medico-Chirurgical Society, 87, 185, 285, 382.
Bristol, Public health in, 1906–7—Dr. D. S. Davies, 336.
Bristol Royal Infirmary, Proposed new rules, 272, 368,
British journal of tuberculosis (R.), 263.
Brown and W. T. Ritchie, Drs. J. J. G.—Medical diagnosis (R.), 262.
Brunton, Sir L.—Collected papers on circulation and respiration (R.), 171.

Buchanan, Dr. A. M.—Manual of anatomy (R.), 251, 354.
Bullen, F. St. J.—Report on psychiatry, 348.
Bush and Dr. J. A. Nixon, J. P.—A case of filariasis, 218.
Bushnell, Dr. F. G.—A case of generalised sarcoma, with blood changes, 321.
Buxton, Dr. D. W.—Anæsthetics, their uses and administration (R.), 363.

Calder, Dr. A. B.—Lectures on midwifery for midwives (R.), 171.
Campbell, Dr. H.—On treatment (R.), 260.
Cancer of the breast—W. S. Handley (R.), 253.
Carcinoma of breast, 344.
Carter, Dr. A. H.—Elements of practical medicine (R.), 262.
Carwardine, T.—Report on surgery, 243.
Catalogue (Index-) of the library of the Surgeon-General's Office, United States Army (R.), 270.
Catalogue of the pathological museum of the Manchester University—Dr. J. L. Smith (R.), 364.
Cataract extraction, Healing of corneal wound in, 249.
Cathcart, Dr. C. W.—The essential similarity of innocent and malignant tumours (R.), 254.
Cerebral lesions in pregnancy and parturition—Dr. W. C. Swayne, 209.
Cerebro-spinal fever—Drs. D. S. Davies and I. W. Hall, 14.
Cerebro-spinal fever, 82.
Cerebro-spinal meningitis, The etiology and diagnosis of—Dr. A. W. Taves (R.), 262.
Chapman, Dr. W. L.—The sequelæ of gonorrhœa in both sexes (R.), 265.
Charles, Dr. J. R.—Report on medicine, 57.
Chest, The Röntgen rays in the diagnosis of diseases of the—Drs. H. Walsham and C. H. Orton (R.), 267.
Children, Aids to the treatment of diseases of—Dr. J. McCaw (R.), 365.
Children, The care of—R. J. Blackham (R.), 75.
Circulation, Collected papers on—Sir L. Brunton (R.), 171.
Clarke, Dr. J. M.—Cases illustrating the more unusual complications of pneumonia, 89, 108; Report on medicine, 341; Treatment of Graves's disease by anti-thyreoid serum and by X-rays, 201.
Climatotherapy and balneotherapy—Sir H. and Dr. F. P. Weber (R.), 265.
Cod liver oil and tuberculosis—Dr. J. W. Wells (R.), 271.
Colour phenomena—J. W. Lovibond (R.), 72.
Consciousness, Double—Dr. F. H. Edgeworth, 186.
Convulsions, 67.
Coombs, Dr. C.—Rheumatic carditis in childhood, 193.
Cooper, R. H.—The uses of X-rays in general practice (R.), 268.
Corneal wound in cataract extraction, Healing of, 249.
Cossham Memorial Hospital, 179, 190.
Cotton, Dr. W.—Proportional representation and the comparison of radiographs, 326.
Crichton-Browne, Sir J.—The prevention of senility, and a sanitary outlook (R.), 360.
Crook, Dr. H. E.—High frequency currents (R.), 257.
Crouch, Dr. C. P.—A suggested treatment for functional aphonia, 214.
Cuff, I. Stewart and Dr. H. E.—Practical nursing (R.), 175.
Cunningham, Dr. D. J. [Ed.]—Textbook of anatomy (R.), 168.

Dalgado, Dr. D. G.—The climate of Lisbon, Mont Estoril and Cintra (R.), 173.
David, Dr. M.—Grundriss der orthopadischen chirurgie (R.), 265.
Davies, Dr. D. S.—Public health in Bristol, 1906-7, 336.
Davies and I. W. Hall, Drs. D. S.—Cerebro-spinal fever, 14.
Davos as health resort (R.), 173.
Deflections and spurs of the nasal septum, Operations for—Dr. P. W. Williams, 21.
Dental caries, On—Dr. J. S. Wallace (R.), 175.
Diabetes, Blood-glands as pathogenic factors in, 57.
Digestive system, Treatment of diseases of the—Dr. R. Saundby (R.), 73.

Dowse, Dr. T. S.—Lectures on massage and electricity (R.), 268.

Editorial notes, 76, 177, 272, 368.
Edmunds, W.—Sound and rhythm (R.), 174.
Electricity, medical—Dr. T. S. Dowse (R.), 268; Dr. H. L. Jones (R.), 266.
Elliott, Dr. F. P.—The value of compression of the aorta in the treatment of post-partum hemorrhage, 121, 310.
Encyclopedia and dictionary of medicine and surgery (R.), 259.
Epidemiological Society of London, Transactions of the (R.), 269.
Estlander's operation for empyema —Dr. H. S. Ballance, 285.
Evidence, Golden rules of medical—Dr. S. B. Atkinson (R.), 364.
Eye, Diseases of the—Dr. C. H. May and C. Worth (R.), 172.
Eye, Syphilitic affections of the, 247.

Fæces, 68.
Filariasis, Case of—J. P. Bush and Dr. J. A. Nixon, 218.
Food-fads and faddists, 368.
Foster, Sir Michael, 81.
Free, John, 276.

Gallstones and diseases of the bile-ducts—J. Bland-Sutton (R.), 170.
Gee, Dr. S.—Auscultation and percussion (R.), 362.
Gonorrhœa, The sequelæ of—Dr. W. L. Chapman (R.), 265.
Gould, Dr. G. M.—Biographic clinics (R.), 255.
Gout—Dr. A. P. Luff (R.), 260.
Graves's disease treated by anti-thyreoid serum and by X-rays—Dr. J. M. Clarke, 201.
Griffiths, L. M.—The Medical Reading Society, Bristol, 222.
Groves, E. W. H.—Report on surgery, 61; Some remarks on spinal anæsthesia, as based upon the personal observation of thirty cases, 305.
Guy's hospital reports (R.), 271.

Hall, Dr. I. W.—Report on medicine, 236; Report on pathology, 67.
Hall, Drs. D. S. Davies and I. W.—Cerebro-spinal fever, 14.
Handley, W. S.—Cancer of the breast and its operative treatment (R.), 253.
Herman, Dr. G. E.—Diseases of women (R.), 366; First lines in midwifery (R.), 362.
Hernia, Retro-peritoneal—B. G. A. Moynihan (R.), 75.
Herringham, Dr. W. P.—On physical training in schools (R.), 174.
Hewitt, Dr. F. W.—Anæsthetics and their administration (R.), 362.
Hewlett, C. G. Moor and R. T. —Applied bacteriology (R.), 171.
High frequency currents—Dr. H. E. Crook (R.), 257.
Horsfall, T. C.—The influence on national life of military training in schools (R.), 174.
Hyperæmia, Bier's method of producing passive, 61.
Hyperleucocytosis, 350.
Hypertension, 153.

Infectious diseases, Nursing of—Dr. F. J. Woollacott (R.), 176.
Inflammation—Dr. J. G. Adami (R.), 355.
Internal organs, Indications for operation in disease of the—Dr. H. Schlesinger (R.), 70.
Intestine, Two cases of ruptured—H. F. Mole, 38.

Jones, Dr. H. L.—Medical electricity (R.), 266.

Kendall, Obituary notice of Herbert W., 90.
Klein, Dr. E.—Studies in the bacteriology and etiology of oriental plague (R.), 361.
Knee-joint, A new method of fixation in excision of the—E. W. H. Groves, 88.

Latham, Dr. A.—Pulmonary consumption (R.), 364.
Library of the Bristol Medico-Chirurgical Society, 85, 182, 283, 379.
Lisbon, The climate of—Dr. D. G. Dalgado (R.), 173.
Liver, Acquired angioma of the—Dr. A. L. Sheppard, 46.
Local medical notes, 93, 187, 287, 383.
Lovibond, J. W.—An introduction to the study of colour phenomena (R.), 72.

Luff, Dr. A. P.—Gout (R.), 260.
Luke, Dr. T. D.—Guide to anæsthetics (R.), 364.
Lumbar puncture as an aid to diagnosis, 351.
Lupus vulgaris, Eighty cases of—Dr. W. K. Wills, 127.

McCaw, Dr. J.—Aids to the treatment of diseases of children (R.), 365.
McCrudden, F. H.—Uric acid: chemistry, physiology and pathology (R.), 74.
M'Gregor, Dr. A. N.—A system of surgical nursing (R.), 175.
McKisack, Dr. H. L.—A dictionary of medical diagnosis (R.), 259.
Marshall, Dr. C. F.—Syphilology and venereal disease (R.), 70.
Martindale and Dr. W. W. Westcott, W.—The extra pharmacopœia (R.), 75.
Massage, Lectures on—Dr. T. S. Dowse (R.), 268.
Massage, Lessons on—M. D. Palmer (R.), 268.
May and C. Worth, Dr. C. H.—A manual of diseases of the eye (R.), 172.
Medical diagnosis—Drs. J. J. G. Brown and W. T. Ritchie (R.), 262.
Medical diagnosis, A dictionary of—Dr. H. L. McKisack (R.), 259.
Medical diagnosis, Aids to—Dr. A. Whiting (R.), 353.
Medical jurisprudence, A handbook of—Dr. W. A. Brend (R.), 261.
Medical Reading Society, Bristol—L. M. Griffiths, 222.
Medicine, Manual of—Dr. T. K. Monro (R.), 73.
Medicine, Practical—Dr. A. H. Carter (R.), 262.
Medicine, Reports on—Dr. J. R. Charles, 57; Dr. J. M. Clarke, 341; Dr. I. W. Hall, 236; Dr. G. Parker, 152.
Midwifery, First lines in—Dr. G. E. Herman (R.), 362.
Midwifery for midwives, Lectures on—Dr. A. B. Calder (R.), 171.
Miles, A. Thomson and A.—Manual of surgery (R.), 263.
Military training in schools, Influence on national life of—T. C. Horsfall (R.), 174.
Milk supply of schools, Inquiry concerning the—Dr. C. E. Shelly (R.), 172.
Minor maladies and their treatment—Dr. L. Williams (R.), 74.
Mole, H. F.—Two cases of ruptured intestine, 38.
Monkeys, Tumours and tubercle in—W. R. Williams, 148.
Monro, Dr. T. K.—Manual of medicine (R.), 73.
Moor and R. T. Hewlett, C. G.—Applied bacteriology (R.), 171.
Morton, C. A.—Report on surgery, 156.
Moynihan, B. G. A.—On retroperitoneal hernia (R.), 75.
Mummery, Dr. P. L.—The sigmoidoscope (R.), 263.
Muthu, Dr. D. J. C.—The sanatorium treatment of pulmonary tuberculosis—is it a success? 50.
Myeolomata and albumosuria, Multiple — Dr. J. R. Charles, 89.

Narcolepsy, A case of—Dr. B. M. H. Rogers, 87, 144.
Nasal septum, Operations for deflections and spurs of the—Dr. P. W. Williams, 21.
Neerlandicorum de arte medica, Opuscula selecta (R.), 361.
Nixon, J. P. Bush and Dr. J. A.—A case of filariasis, 218.
Nose and pharynx, Diseases of the—Dr. J. B. Ball (R.), 173.
Nose and throat, Treatment of diseases of the—C. A. Parker (R.), 69.
Nunneley, Dr. F. P.—Aneurysm of the abdominal aorta (R.), 353.
Nursing, Practical—I. Stewart and Dr. H. E. Cuff (R.), 175.
Nutritional disorders of infancy, Treatment of—Dr. R. Vincent (R.), 258.

Obituary, 90, 97.
Obstetrics, Report on—Dr. W. C. Swayne, 162.
Ogilvy, Dr. A.—Report on ophthalmology, 247.
Oliver, Dr. G.—Studies in blood pressure (R.), 73.
Ophthalmology, Report on—Dr. A. Ogilvy, 247.
Orthopadischen chirurgie, Grundriss der—Dr. M. David (R.), 265.
Orton, Drs. H. Walsham and C. H.—The Röntgen rays in the diagnosis of diseases of the chest (R.) 267.

Page, F. J. M.—Elements of physics for medical students (R.), 357.
Palmer, M. D.—Lessons on massage (R.), 268.
Paresis, Bacterial origin of general, 348.
Paresis, Change of type in general, 352.
Parker, C. A.—A guide to the diseases of the nose and throat, and their treatment (R.), 69.
Parker, Dr. G.—Report on medicine, 152.
Pathogenic organisms, 83.
Pathogenic streptococci. The, 236.
Pathological demonstrations, 96.
Pathology, Report on—Dr. I. W. Hall, 67.
Peritonitis, Treatment of general, 243.
Pharmacopœia, The extra—W. Martindale and Dr. W. Westcott (R.), 75.
Philadelphia hospital reports (R.), 263.
Philippine journal of science, The (R.), 174.
Physical training in schools, On—Dr. W. P. Herringham (R.), 174.
Physics, Elements of—F. J. M. Page (R.), 357.
Plague, Bacteriology and etiology of oriental—Dr. E. Klein (R.), 361.
Pleural effusions, 152.
Pneumonia, Unusual complications of—Dr. J. M. Clarke, 89, 108.
Post-partum hemorrhage, 162.
Post-partum hemorrhage, The value of compression of the aorta in—Dr. F. P. Elliott, 121, 310.
Pregnancy and parturition, Cerebral lesions in—Dr. W. C. Swayne, 209.
Prescriptions, Beasley's book of (R.), 261.
Prognosis—Dr. P. H. Pye-Smith, 1.
Psychiatry, Report on—F. St. J. Bullen, 348.
Pulmonary consumption—Dr. A. Latham (R.), 364.
Pulmonary tuberculosis, The sanatorium treatment of—Dr. D. J. C. Muthu, 50.
Pye-Smith, Dr. P. H.—Prognosis, 1,

Radiographs, Proportional representation and the comparison of—Dr. W. Cotton, 326.
Reinhardt, Dr. C.—Some notes on styracol, 54.
Renal anasarca, Chloride deprivation in the treatment of, 343.
Respiration, Collected papers on circulation and—Sir L. Brunton (R.), 171.
Retro-peritoneal hernia—B. G. A. Moynihan (R.), 75.
Rheumatic carditis in childhood—Dr. C. Coombs, 193.
Ritchie, Drs. J. J. G. Brown and W. T.—Medical diagnosis (R.), 262.
Röntgen rays in the diagnosis of diseases of the chest—Drs. H. Walsham and C. H. Orton (R.), 267.
Rogers, Dr. B. M. H.—A case of narcolepsy, 87, 144.
Ruptured intestine, Two cases of—H. F. Mole, 38.

Sage-femme et de la garde, Le livre de la—Dr. R. de Seigneux (R.), 176.
St. Bartholomew's hospital reports (R.), 365.
Sanatorium treatment of pulmonary tuberculosis—Dr. D. J. C. Muthu, 50.
Sanitary outlook, A—Sir J. Crichton-Browne (R.), 360.
Sarcoma, Case of generalised, with blood changes—Dr. F. G. Bushnell, 321.
Saundby, Dr. R.—The treatment of diseases of the digestive system (R.), 73.
Savage, Dr. W. G.—The bacteriological examination of water supplies (R.), 355.
Schlesinger, Dr. H.—Indications for operation in disease of the internal organs (R.), 70.
Seigneux, Dr. R. de—Le livre de la sage-femme et de la garde (R.), 176.
Senility, The prevention of—Sir J. Crichton-Browne (R.), 360.
Sheen, Obituary notice of Alfred, 90.
Shelly, Dr. C. E.—A preliminary inquiry concerning the milk supply of schools (R.), 172.
Sheppard, Dr. A. L.—Acquired angioma of the liver, 46.
Sick, Preparations for the:
Adrenalin and chloretone ointment, 376.
Adrenalin and eucaine tablets, 281.
Alaxa, 181

Sick, Preparations for the :
Anæsthetics, " Wellcome " brand, 279.
Aspirin tablets, 283.
Black wash tablets, 376.
Claroma, 283.
Cholelith pill, 376.
Colalin, 83.
Colalin laxative, 83.
Egmol, 376.
" Elixoid " formates compound, 278.
" Elixoid " pine tar compound, 181.
Ernutin, 279.
Formamint tablets, 83.
Formidine, 281, 375.
Grape nuts, 282.
Helmitol tablets, 283.
Heroin hydrochl. tablets, 283.
Iodalbin, 281.
Kuhn's suction mask, 374.
Manhu diabetic foods, 378.
Miol, 378.
Nizin, 182.
Nutritive liquid peptone with creosote, 280.
Pertussin, 282.
Petroleum emulsion, 376.
Phenofax, 84.
Phenol-phthalein compound, 280.
Phytin preparations, 377.
Quinine acetyl-salicylate, 279.
Soloid—Eosin-azur, 85.
Somatose, Liquid, 83.
Tabloids :
Calcium iodo-ricinoleate, 377.
Calcium lactate, 84.
Carbolic acid and slippery elm, 279.
Gingamint, 279.
Guaiacol camphorate, 84.
Pectoral pastilles, 84.
Slippery elm, 279.
Tannigen, 282.
Tannigen tablets, 283.
Theinhardt's food for infants, 377.
Tilia, 282.
Trional tablets, 283.
Triple glycerophosphates with nuclein, 280.
Veronal tablets, 283.
Sigmoidoscope, The—Dr. P. L. Mummery (R.), 263.
Skerritt, Obituary notice of Edward Markham, 97.
Small-pox, Selected essays on syphilis and (R.), 260.
Smith, Dr. J. L.—Catalogue of the pathological museum of the Manchester University (R.), 364.
Smithsonian institution report (R.), 367.
Society, Bristol Medico-Chirurgical, 87, 185, 285, 382.
Society for the study of disease in children, Reports of the (R.), 270.
Sound and rhythm—W. Edmunds (R.), 174.
Spinal anæsthesia, 159.
Spinal anæsthesia, Some remarks on —E. W. H. Groves, 305.
Spinal curvatures—H. Bigg (R.), 264.
Splenomegalic cirrhosis in a child aged seven years, Concluding notes on a case of—Dr. E. C. Williams, 43, 88.
Stacpoole, F.—Women's health, and how to take care of it (R.), 266.
Stewart and Dr. H. E. Cuff, I.—Practical nursing (R), 175.
Styracol, Some notes on—Dr. C. Reinhardt, 54.
Surgery, Manual of—A. Thomson and A. Miles (R.), 263.
Surgery, Reports on—T. Carwardine, 243 ; E. W. H. Groves, 61 ; C. A. Morton, 156 ; J. Swain, 344.
Surgical nursing, A system of—Dr. A. N. M'Gregor (R.), 175.
Swain, Dr. J.—Report on surgery, 344.
Swayne, Dr. W. C.—Cerebral lesions in pregnancy and parturition, 209 ; Report on obstetrics, 162.
Syphilis—Dr. H. Waldo, 289.
Syphilis and small-pox, Selected essays on (R.), 260.
Syphilitic affections of the eye, 247.
Syphilology and venereal disease—Dr. C. F. Marshall (R.), 70.

Taste-fibres, Course of, 341.
Taves, Dr. A. W.—The etiology and diagnosis of epidemic cerebro-spinal meningitis (R.), 262.
Thomson and A. Miles, A.—Manual of surgery (R.), 263.
Thyreoid (anti-) serum, Treatment of Graves's disease by—Dr. J. M. Clarke, 201.
Treatment, On—Dr. H. Campbell (R.), 260.
Tubercle in monkeys, Tumours and —W. R. Williams, 149.
Tuberculosis, Infection in, 69.

Tumours and tubercle in monkeys —W. R. Williams, 149.
Tumours, innocent and malignant—J. Bland-Sutton (R.), 361.
Tumours, The essential similarity of innocent and malignant—Dr. C. W. Cathcart (R.), 254.
Tumours, Trauma as a cause of, 68.
Typhoid, The diagnosis of, 155.

University College, Bristol, Examination successes, 93, 187, 287, 383; Incorporation of medical school with, 93; Medical prize distribution, 373.
University College Colston Society, 76.
University for Bristol, Professor Sadler on a, 78.
University ideal, The, 78.
Uric acid—F. H. McCrudden (R.), 74.

Vincent, Dr. R.—Clinical studies in the treatment of nutritional disorders of infancy (R.), 258.

Waldo, Dr. H.—Syphilis, 289.
Wallace, Dr. J. S.—On the cause and prevention of dental caries (R.), 175.
Walsham and C. H. Orton, Drs. H. —The Röntgen rays in the diagnosis of diseases of the chest (R.), 267.
Walter, Capt. A. E.—X-rays in general practice (R.), 268.
Water supplies, The bacteriological examination of—Dr. W. G. Savage (R.), 355.
Weber, Sir H. and Dr. F. P.—Climatotherapy and balneotherapy (R.), 266.
Wellcome's photographic exposure record and diary (R.), 270.
Wells, Dr. J. W.—The influence of cod liver oil on tuberculosis (R.), 271.
Westcott, W. Martindale and Dr. W. —The extra pharmacopœia (R.), 75.
Whiteford, C. H.—Glimpses of American surgery in 1906 (R.), 264.
Whiting, Dr. A.—Aids to medical diagnosis (R.), 353.
Williams, Dr. E. C.—Concluding notes on a case of splenomegalic cirrhosis in a child aged seven years, 43, 88.
Williams, Dr. L.—Minor maladies and their treatment (R.), 74.
Williams, Dr. P. W.—Operations for deflections and spurs of the nasal septum, with special reference to sub-mucous resection, 21.
Williams, W. R.—Tumours and tubercle in monkeys, 149.
Wills, Dr. W. K.—Eighty cases of lupus vulgaris, 127.
Winsley sanatorium, 372.
Women, Diseases of—Dr. G. E. Herman (R.), 366.
Women's health, and how to take care of it—F. Stacpoole (R.), 266.
Woollacott, Dr. F. J.—Lectures upon the nursing of infectious diseases (R.), 176.
Workmen's compensation act, The, 188.
Worth, Dr. C. H. May and C.—A manual of diseases of the eye (R.), 172.

X-rays in general practice—R. H. Cooper (R.), 268; Capt. A. E. Walter (R.), 268.
X-rays, Treatment of Graves's disease by—Dr. J. M. Clarke, 201.

J. W. Arrowsmith, Printer, Quay Street, Bristol.

J.W. Arrowsmith
Publisher
Bristol